

|   |           |
|---|-----------|
| <b>CHAPTER 3</b>                          | <b>11</b> |
| <b>TUTORIAL</b>                           | <b>11</b> |
| <b>About the Tutorial</b>                 | <b>11</b> |
| <b>Starting ivan</b>                      | <b>11</b> |
| <b>Creating a new Project</b>             | <b>13</b> |
| Set the Project Calendar                  | 14        |
| Selecting Objects                         | 14        |
| Method One - Clicking                     | 14        |
| Method Two - Selection Rectangle          | 14        |
| Open the Project                          | 15        |
| <b>Create a new Programme</b>             | <b>15</b> |
| Open the Programme                        | 15        |
| Setting the Programme Grid and Time Scale | 16        |
| Change the Start and Finish Dates         | 17        |
| Change the Width of the Displayed Columns | 17        |
| <b>Drawing Activities</b>                 | <b>17</b> |
| Create Two more Activities                | 19        |
| Refreshing the Screen                     | 19        |
| Changing Activity Attributes              | 19        |
| Details                                   | 19        |
| Colour                                    | 20        |
| Line Style and Thickness                  | 21        |
| Changing Activity Graphics                | 21        |
| <b>Manipulating Objects</b>               | <b>23</b> |
| Copying                                   | 23        |
| Moving                                    | 24        |
| Stretching                                | 25        |
| Erasing                                   | 26        |

|   |           |
|---|-----------|
| <b>Linking Activities with Dependencies</b> | <b>28</b> |
| Zooming In and Out                          | 29        |
| Dependency Details                          | 29        |
| Automatically Linked Activities             | 30        |
| Mid-Activity Dependencies                   | 31        |
| <b>Tidying up the Programme</b>             | <b>32</b> |
| Critical Path Method (CPM)                  | 32        |
| Shuffle                                     | 33        |
| Reshaping Dependencies                      | 34        |
| Drawing Lines                               | 34        |
| <b>Drawing Milestones</b>                   | <b>35</b> |
| <b>Adding Text</b>                          | <b>36</b> |
| Editing Text                                | 37        |
| To re-edit the text you have just typed:    | 37        |
| Aligning Text                               | 37        |
| Changing the Text Size                      | 37        |
| Blank Spaces                                | 38        |
| Further Text Editing                        | 39        |
| <b>Printing the Programme</b>               | <b>39</b> |
| <b>Moving between Views</b>                 | <b>40</b> |
| <b>Closing the Programme</b>                | <b>41</b> |
| <b>Exiting from ivan</b>                    | <b>41</b> |

## *Chapter 3*

# *Tutorial*

---

### **About the Tutorial**

The Tutorial provides a quick introduction to **ivan**. Most of the important features of **ivan** will be demonstrated as we construct the programme shown on the next page.

The tutorial does not describe project planning theory or method and the more complex features of **ivan** are not covered here. See your User Manual for these functions.

For a first-time user, it is recommended that the sections be followed in the order presented. However, to assist users already familiar with **ivan**, the tutorial is divided according to functionality, enabling quick reference to relevant **ivan** functions.

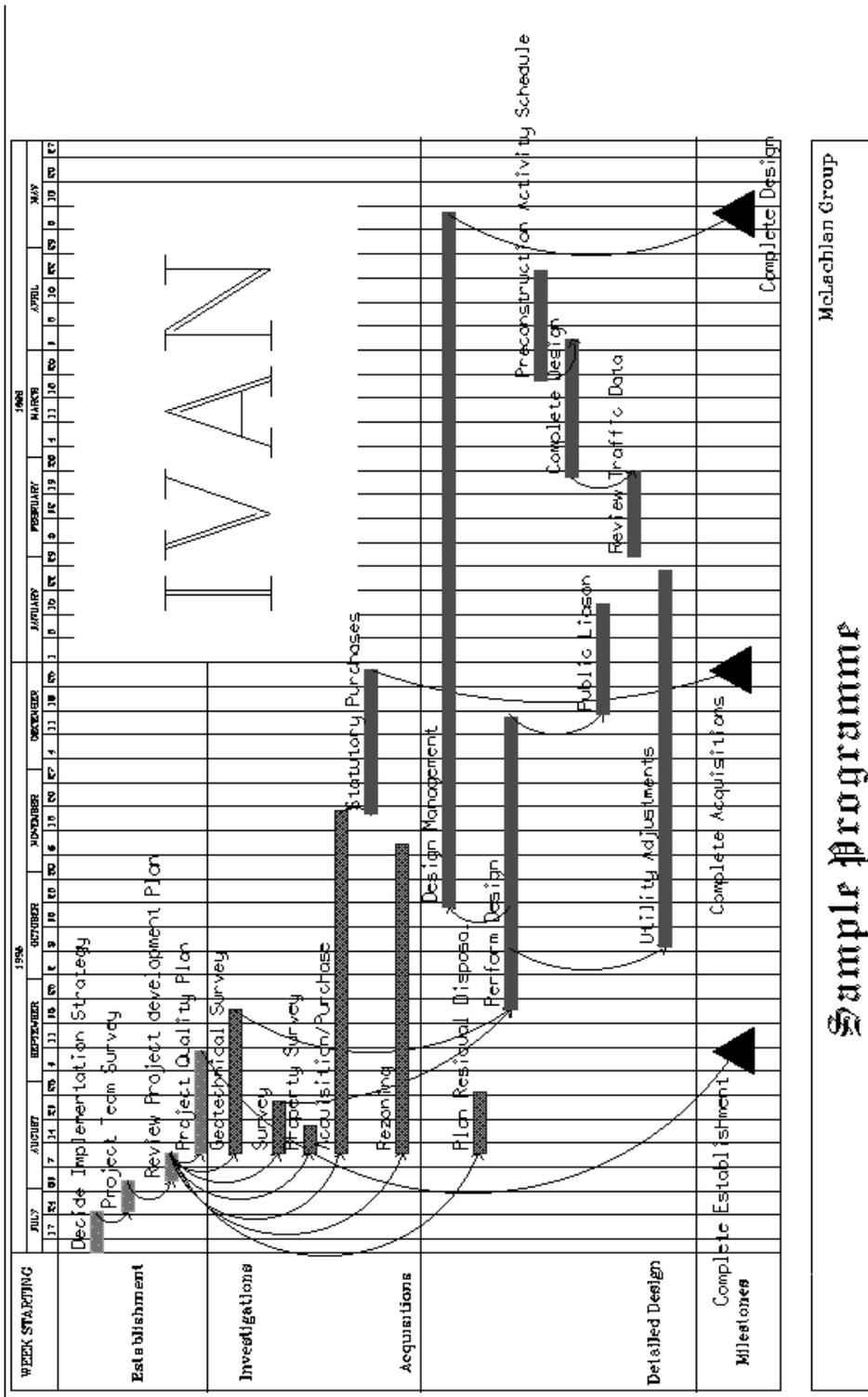
You may find it useful to use the procedures outlined here to construct your own programme. The tutorial has been written so that you can interpret its contents and apply them to your own programme.

### **Starting ivan**

Starting **ivan** will be slightly different for different computing environments. Consult your User Manual to find the methods required on your computer environment.

Starting **ivan** may take a few seconds; while this is happening, an hour-glass icon appears. This icon will appear whenever **ivan** is engaged in some operation that takes time.

When the hour-glass disappears, you will see **ivan** in Project View. (See Chapter 2, page 8 for an explanation of Views). Along the top of the screen are menu icons and along the bottom of the screen are the tools and other palettes. (See Chapter 2, page 4 for an illustration).



**Sample Programme**

McLachlan Group

In the centre of the screen is the workspace. If you are starting **ivan** for the first time, this space will be blank.

Otherwise there may be one or more Projects visible in the workspace.

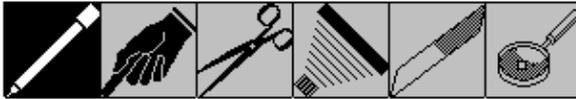
If at any time you wish to discontinue the tutorial, see Closing the Programme on page 41 to leave **ivan** running, or Exiting from **ivan ivan** on page 41 to shut down **ivan**.

## Creating a new Project



- 1) Move the mouse and notice that the active tool is the Pen and the active Pen option, represented by the rectangle attached to the Pen, which is the Box.

The Pen is the left most tool on the tool pallet, and is “highlighted” (shown in white on black) to show that it is active. The Box is the third Pen option and is also highlighted.



Tools Pallet



Pen Options Pallet

Pen options that appear grey are not available in the current View.

- 2) Click anywhere in the workspace.

The *PROJECT DETAILS* dialogue box appears.

- 3) Click in the field named *Name* and type **Ivan Tutorial**.

If you make an error typing you can use the delete or backspace keys on the keyboard to delete and then re-type the name.

## Set the Project Calendar

It is possible to create special purpose calendars for use in **ivan**. See the **ivan** manual for more detail. For now we will use the pre-defined default calendar in which every day is a working day.

Using the default calendar should require no action on your part. Check that the drop down menu next to the words *Calendar* looks like:



- 4) Click on 

A new Project appears in the workspace bearing the name *Ivan Tutorial*.



If you click on , you will be returned to the workspace and no changes will be made. This is consistent in all **ivan** dialogue boxes.

## Selecting Objects

Select this new Project:

### Method One - Clicking

- 1) Move the Pen over the Project.
- 2) Click Right.

Notice the Project turns grey. This indicates a selected object.

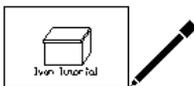
Now de-select the Project by repeating the steps above i.e.

- 1) Move the Pen over the Project.
- 2) Click Right

The Project returns to its own colour.

### Method Two - Selection Rectangle

To select the Project again, use the alternative method.



- 1) Move the Pen above and to the left of the Project.
- 2) Click Right
- 3) Move the Pen to below the bottom-right of the Project.

A selection rectangle is drawn completely surrounding the Project.

- 4) Click Right again to select the Project.

This alternative method of selecting objects will be useful later when selecting more than one object at once.

For a method of de-selecting all selected objects at once, see “Refreshing the Screen” on page 19 in this chapter.

## Open the Project

Now that the Project has been selected;



- 1) Move the Pen to the *Sub-P* menu.
- 2) Click and move the Pen down the menu to *Open Selected Programmes*.

Notice that the menu item becomes highlighted as you move the Pen over it.

- 3) Click.

Another blank workspace appears. This is the Hierarchy View, where Programmes contained within the Project *Ivan Tutorial* will reside.

## Create a new Programme

- 1) Click anywhere in the Hierarchy View workspace.

The *Programme Details* dialogue box appears.

- 2) Click in the field labelled *Name* and type the new programme name, Sample Programme.

- 3) Click on 



A new programme icon appears.

## Open the Programme

- 1) Select the programme using the same method as you used to select the Project above (see page 14 in this chapter).

Note that the object turns to grey to indicate it is selected.

Open Selected Programmes  
 Select View...  
 Close Selected Programmes  
 Export IVAN Programmes...  
 Import IVAN Programmes...  
 Import Activity Data...

- Open the programme using *Open Selected Programmes* from the Sub-P menu as before.

A new programme appears. As before, there is a workspace between the menu icons above and the pallets below. The programme grid appears in this workspace.

## Setting the Programme Grid and Time Scale

When a programme is first created the grid begins at today's date. You will change this to set the programme up for the whole of the year 1998. Notice that the top of the workspace displays monthly columns by default.

| 1998 |     |     |     |     |     | 1999 |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|
| JUN  | JUL | AUG | SEP | OCT | NOV | DEC  | JAN | FEB | MAR | APR | MAY |

You will change this also to show the months and weeks of the year.

Grid

Grid Dates...  
 Hatch and Shade...  
 Grid Setup...  
 Title Block...  
 Blank Areas...

- Click on the *Grid* menu.
- Move the Pen to the first menu item, *Grid Dates*.

Notice that the item is highlighted.

- Click.

The *Grid Properties* Dialogue Box appears.

**Grid Properties**

Dates | Title | Blank Areas

Start Date: 13/07/98      Finish Date: 31/05/99  
 Duration (days): 323

Column Units:  
 Day     Week     Month     Quarter     Year

Show Week:  
 Start     End

Display:  
 Working Days Only  
 Working and Irregular Non-Working Days  
 All Days (Including Non-Working)

Show Dates on Grid     Show Week / Day Numbers on Grid

OK    Cancel    Apply

**Change the Start and Finish Dates**

- 1) The field next to *Start Date* should contain **13/07/1998**.
- 2) Click in the field next to the *Finish Date* and type **31/05/1999**.

Use the arrow keys and the delete or backspace key to correct any mistakes.

**Change the Width of the Displayed Columns**

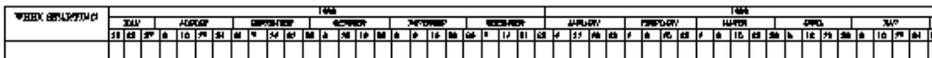
- 3) Click on the open circle (radio button),  Week .

Notice that it becomes filled with a black dot to show that it has been

chosen,  Week . Note also that  Start is chosen to ensure the dates displayed are for the start of the week.

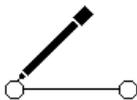
- 4) Click on  .

The workspace calendar and grid should now look as follows:



You are now ready to draw your first activity.

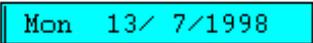
**Drawing Activities**



Notice that the Pen option has changed to represent the Activity.

The Date indicator is above the tool icons at the bottom left of the screen. This indicates the exact date at the position of the Pen and changes as you move the Pen across the workspace.

As activities are easily moved in **ivan**, don't be too concerned with exact placement.



- 1) Move the Pen to Mon 13/07/1998 on the grid, near the top of the workspace. (See the illustration on page 4 in chapter 2 for an indication of where this should be).
- 2) Click
- 3) Move the Pen to the right.

A line will follow the Pen, connecting it to the point it was at when you clicked it. We call this a "rubber-band" line since it stretches to follow the Pen.



If at this point you wish to discontinue drawing an activity, press **ESC** on the keyboard to return to the step before.

Next to the date is shown the duration, in days, of the activity you are currently drawing.

- 4) Continue to move the Pen until this duration is 8 days.

Tue 21/ 7/1998 8 DAYS

Since activities are always drawn horizontal by **ivan**, it does not matter if the rubber-band is not horizontal.

- 5) Click.

The *ACTIVITY DETAILS* dialogue box appears. This displays information about the activity and allows you to enter information that should be associated with the Activity (see page 19).

For the time being, we only want to enter the activity's description.

- 1) Click in the *Name* field of the dialogue box
- 2) Type in the activity's description. For the time being, call it **Activity One**.
- 3) The Position radio buttons can be used to place the activity description close to the activity line (radio button one) or further away from the activity line (radio button three)

- 4) Click 

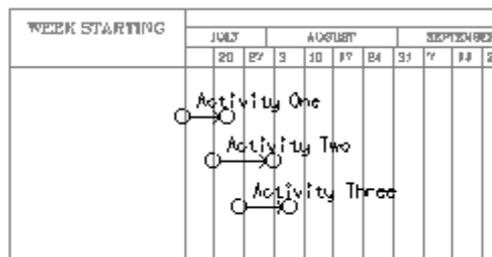
The activity will be drawn horizontally with the description written above it.

**ivan** will automatically begin new activities on the beginning of the chosen day and end activities on the end of the chosen day.

### Create Two more Activities

- 1) Draw two more short activities under the first, calling them **Activity Two** and **Activity Three**.

Your programme should now look roughly like the one below.



### Refreshing the Screen

Occasionally it is useful to have the screen re-drawn by the computer. This will re-display the workspace, remove extraneous lines and reform objects. This will also de-select any selected objects in the workspace.

- 1) Hold down the Ctrl key on the keyboard while you press the D key (Ctrl+D).

For old time **ivan** users, you can achieve the same effect by holding down the shift key on the keyboard while you press the **ESC** key..

You can also achieve the same effect without de-selecting objects by holding down the control key (Ctrl) on the keyboard and pressing the "R" key (Ctrl+R). This will also re-draw the menu, tool and Pen option icons.

### Changing Activity Attributes

Once you have drawn a series of activities, it is a simple matter to change them.

#### Details



To change the activity details, you must first choose the Hand tool.

- 1) Click on the Hand tool icon.

Notice that the Pen option icons all become grey, showing that they are not available with this tool and no Pen option follows the Hand.

- 2) Click on *Activity One*.



The *Activity Attributes* menu pops-up.

- 3) Choose *Activity Attributes* from the menu.

The *Activity Details* dialogue box appears, the same one you used to create the activities (see page 18 in this chapter).

- 4) Click in *Name* and, using the arrow keys and the delete (or backspace) key, delete the words *Activity One*.
- 5) Type **Decide Implementation Strategy**.

- 6) Click on 

- 7) Do the same for the other two activities, renaming them: **Project Team Survey** and **Review Project Development Plan** respectively.

### Colour

To distinguish the current activities from those you will be drawing later, we will colour these ones light green.

Below the Tool pallet is the Colour pallet.



- 1) Using the Hand tool, select all three activities. (Use the selection rectangle, as this is easier, see page 14 in this chapter. Note that the rectangle must surround all of the activities and their names).
- 2) Click on the light green square on the Colour pallet.
- 3) De-select the activities.

The selected activities turn green.

Any object may be coloured in this fashion using the Hand Tool.

To draw a new green activity

- 1) Choose the Pen tool.
- 2) Click on the green square, as before.
- 3) Draw a new activity beginning under the end of *Review Project Development Team* and with a duration of 30 days. Name it **Project Quality Plan**.

## Line Style and Thickness

To further distinguish activities from one another, it is possible to change the line to a dashed line and to change the line thickness.

Below the Pen option pallet is the Line Style pallet.



- 1) De-select all selected activities by holding down the shift key and pressing **ESC**.
- 2) Select the last activity you drew and with the Hand tool, click on the dotted line in the Line Style pallet.

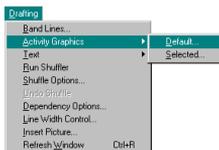
The activity changes to a dotted line. Four different line styles are available and four different line thicknesses. To change line thickness use the Hand to click on the desired thickness.

- 3) As we will be further adjusting the graphic style of the activities next, return the selected activity to its former attributes. Click on the smallest thickness line and on the un-dotted line.

When drawing new activities, use the Pen to select the line style you want first. The same as you did to select a different colour for new activities.

## Changing Activity Graphics

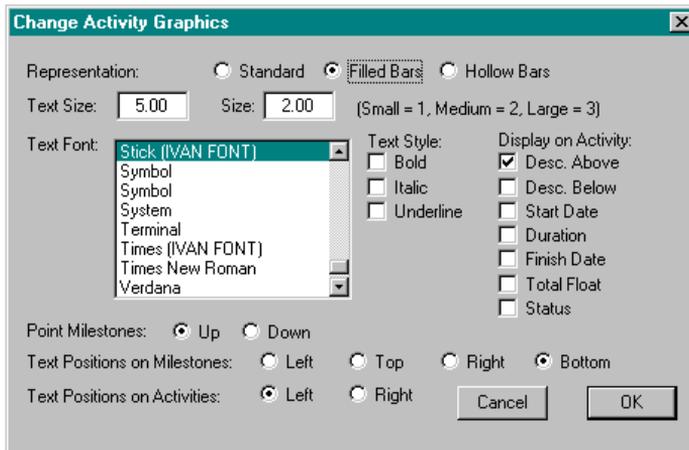
- 1) Click on the *Drafting* menu and move the Hand over *Activity Graphics*.



Notice that a sub-menu pops-up, allowing you to choose between *Default* and *Selected*. If you change the default values for the activity graphics, then each new activity you draw will have those default characteristics. If you change the selected values, only those activities you have selected will be changed.

- 2) Choose *Activity Graphics - Default*.

The *Change Activity Graphics* dialogue box appears.



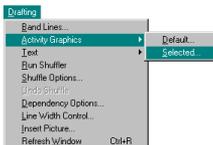
- 3) Set the values as shown above.

Standard activities may be dashed and have their thickness changed using the Line Style pallet as described on page 21 in this chapter. Filled and Hollow Bar activities are always solid and their thickness is determined by the Size option in the *Change Activity Graphics* dialogue box above.

- 4) Click on .

The activities in the workspace do not change as setting the default only affects new activities. To change the existing activities:

- 1) Select all the activities in the workspace with a selection rectangle.
- 2) Choose *Activity Graphics - Selected* from the *Drafting* menu.



The *Change Activity Graphics* dialogue box re-appears.

Notice that the values of the various options are the same as the values of the selected activities.

Choosing the *Activity Graphics Attributes* dialogue in this way provides a simple method of checking the current attribute settings of a particular activity.

- 3) Click on .

The selected activities are changed to the new style.

You may wish at this point to experiment with the different options available from the *Change Activity Graphics* dialogue box. Do so by choosing the *Selected* sub-menu, changing the options and clicking



The activities are copied to the new location.

Before moving on to the next step, de-select all the activities in the workspace (see page 19 in this chapter) and re-colour the newly created activities blue (see page 20 in this chapter).



## Moving

Moving objects in **ivan** is done with the Scissors tool.

- 1) Choose the Scissors tool.

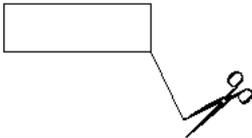
The icon is highlighted and the sub-menu  appears underneath it.

- 2) Ensure that the  sub-menu is high-lighted.
- 3) Check that the blue activities are still all selected in the workspace.

Notice that the Constrained option is still chosen (highlighted).

- 4) Move the Scissors to the beginning of the grid, 13/07/1998 on the date indicator.
- 5) Click.

A box appears surrounding the activities to be moved. As for the Copier, a rubber-band line follows the Scissors in the workspace.



- 6) Move the activities until they begin on the 7th August, as seen on the date indicator and click.

Accurate placement is not important here, as the activities will be re-aligned when you run the Critical Path Method analysis (see page 32 in this chapter).

- 1) Rename the blue activities as shown below. Refer to page 19 in this chapter if necessary.



*Property Survey* - 8 days.

- 2) Make a copy of all the blue activities, and using the Constrained option, position them below the existing activities. (See page 23 in this chapter if necessary).

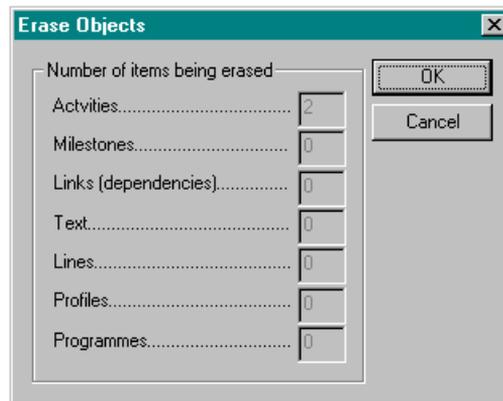
## Erasing

Objects are erased in **ivan** with the Eraser tool.



- 1) De-select all the activities in the workspace.
- 2) Choose the Eraser tool.
- 3) Select the last two activities i.e. the duplicate *Property Survey* and *Acquisition/Purchase*.
- 4) Click anywhere in the workspace.

The *Erase Objects* dialogue box appears.



The dialogue box shows a count of all the objects which are to be erased.

If only one object is selected in the workspace when you click the Eraser, this dialogue box will not appear. The object will simply be erased.

- 5) Ensure that the dialogue box shows only two activities are to be erased.

This is a safety measure to ensure you only erase what you intend to. **You cannot restore erased objects.**

If the dialogue box shows items you don't want to erase, click  and de-select those objects before proceeding.

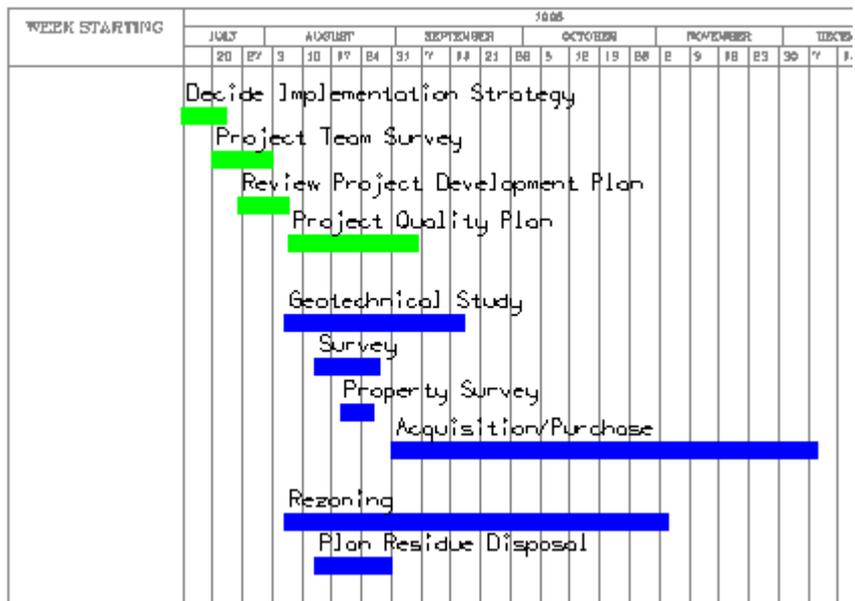
- 6) Click .

The selected activities disappear.

This method can be used to erase any **ivan** object.

- 1) Re-name the last two activities **Rezoning** and **Plan Residue Disposal**.
- 2) Stretch **Rezoning** to a duration of 90 days and **Plan Residue Disposal** to a duration of 18 days.

Your programme should now look roughly like the one below.



## Linking Activities with Dependencies



Dependencies between activities are created in **ivan** with the Pen and Dependency option. Dependencies ensure that the relationships between activities are maintained when the activities are adjusted and moved, and they are an integral part of the Critical Path Method analysis.

- 1) Choose the Pen tool and then the Dependency Pen option.

The Activity Pen option is de-selected when the Dependency Pen option is chosen.



- 2) Move the Pen into the workspace. The Dependency now follows the Pen as the Activity did before.
- 3) Move the Pen to the right-hand end of the third activity, **Review Project Development Plan**.
- 4) Click when the tip of the Pen is over the end of the activity.

A rubber-band line will follow the Pen in the same way it did when you were drawing activities.

- 5) Move the Pen to the start of the last activity, **Plan Residue Disposal** and click.

A rubber-band arc connects the activities. Moving the Pen changes the size of the arc.

If you miss the end of the activity, a dialogue box appears.



Click  or press ESC and try again.

It is easier to control the size of the arc if you move the Pen to the centre of the arc and adjust the size from there.

- 6) Adjust the arc so that it curves to the left. When you are happy with the size of the arc, click again.

The dependency will be drawn connecting the two activities.

Note that activities can have dependencies beginning and ending at any point along their length. The dependency you have just drawn should attach right at the ends of the activities. It is easier to see this if you enlarge the view of the programme.

## Zooming In and Out

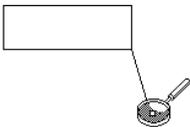


Enlarging the view of the programme on screen is done with the Magnifier tool.

- 1) Choose the Magnifier tool.

The cursor changes to the Magnifier and a sub-menu appears below the Magnifier icon.

- 2) Move the Magnifier to above and to the left of the first activity on the programme.
- 3) Click.
- 4) Move the Magnifier to below and to the right of the last activity.



A box is drawn surrounding the activities. This shows the area to be magnified.

The rectangle that is drawn as you move the mouse shows the area that will be displayed on the screen - not just the items you wish to enlarge.

- 5) Click.

An enlarged view of the activity appears.

To return to the full programme view:

- 1) Press **ESC** or click the  sub-menu.

Notice that the other four sub-menu choices, , enlarge the four quarters of the **ivan** screen.

- 2) Enlarge the view again using one of these choices.
- 3) Now click on the  sub-menu.

The view reduces again.

## Dependency Details

Check now that the dependency you drew attaches at the very beginning and very end of the relevant activities. If this is not so, or you are unsure:

- 1) Choose the Hand tool.
- 2) Click on the dependency.

The *Dependency Details* dialogue box appears. (See page 30).

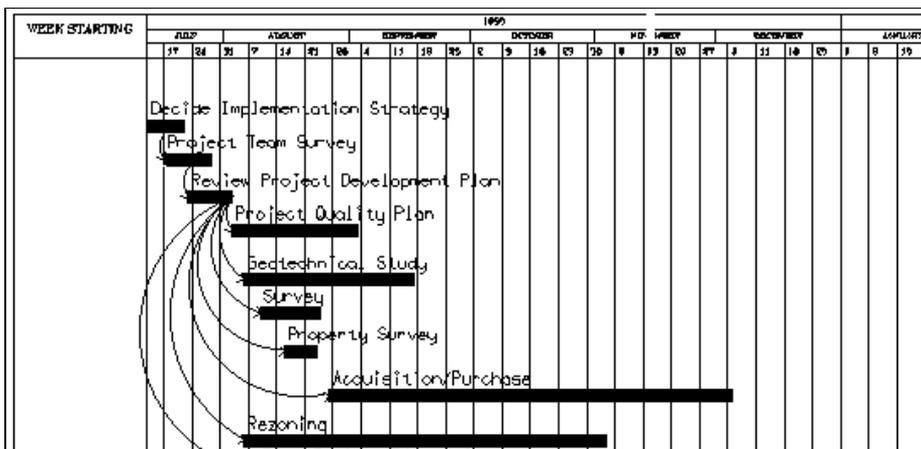
*Predecessor Activity* and *Successor Activity* should show a lag of 0 days from activity finish and activity start respectively, as in the illustration below.

- 3) If this is not so, click in the appropriate box and change the number to 0.

- 4) Click .

The dependency now begins and ends at the very ends of the relevant activities.

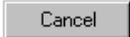
- 1) Using the Pen and Dependency option, draw dependencies connecting the remaining activities as shown below.



### Automatically Linked Activities

Activities drawn end-to-end will be automatically linked.

- 1) Choose the Pen and the Activity option.
- 2) Click on the red square in the colour pallet in order to produce a red activity.
- 3) Click on the very end of the activity *Acquisition/Purchase*.

If you clicked inside the activity a message box appears. Click  or press ESC and try again.

- 4) Draw the activity with a duration of 46 days and name it **Statutory Purchases**.

The activity is drawn linked to *Acquisition/Purchase*. Although the dependency is not visible, if at some later stage either activity is moved away, the dependency will be maintained.

- 1) Draw a red activity with a duration of 85 days below and to the right of *Plan Residue Disposal*. Name it **Perform Design**.
- 2) Draw a dependency from the end of *Geotechnical Study* to the beginning of *Perform Design*.
- 3) Draw another dependency from the end of *Survey* to the beginning of *Perform Design*.

As you see, multiple dependencies can be drawn to a single activity.

- 1) Draw another red activity beginning next to *Plan Residue Disposal* (around the 9th of October) and with a duration of 202 days. Name it **Design Management**.

### Mid-Activity Dependencies

- 1) Draw a dependency from mid-way along *Perform Design*, to the beginning of *Design Management*.
- 2) Choose the Hand tool and click on the dependency.

The *Dependency Details* dialogue box appears (see page 30 in this chapter for illustration).

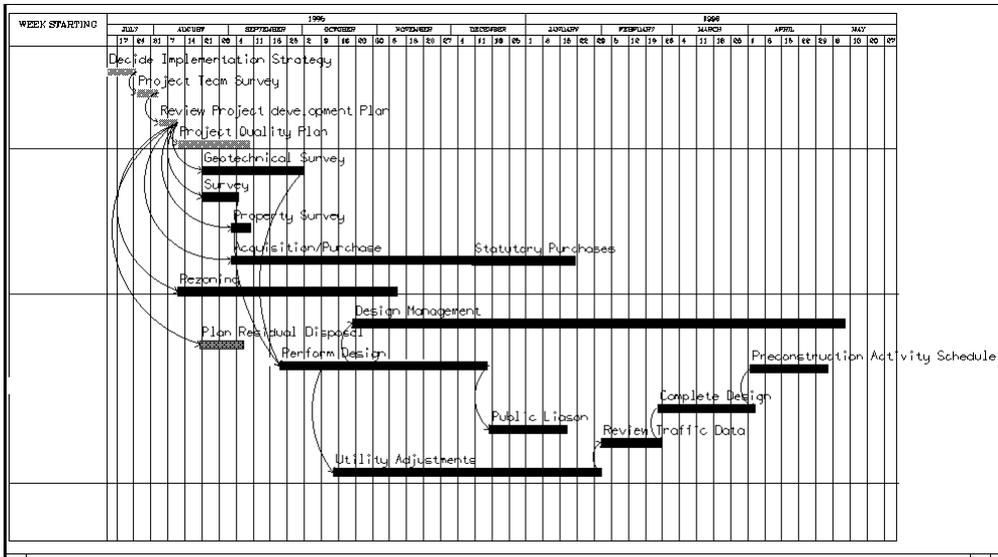
- 3) Change the *Predecessor Activity* lag to 30 days from activity start and check that the *Successor Activity* lag is 0.
- 4) Click .

The dependency is moved to begin 30 days along *Perform Design*.

There are another five activities and dependencies to be drawn on the sample programme. See below.

- 1) Draw them now as red activities with duration as follows:
 

|  |          |
|--|----------|
| <b>Public Liaison</b>                    | 32 days  |
| <b>Utility Adjustments</b>               | 110 days |
| <b>Review Traffic Data</b>               | 25 days  |
| <b>Complete Design</b>                   | 40 days  |
| <b>Preconstruction Activity Schedule</b> | 32 days  |



## Tidying up the Programme

Your programme is now beginning to be a little more complex and has become a touch untidy. **ivan** has two ways of automatically tidying up activities and dependencies, in addition to manual adjustments you can make.

### Critical Path Method (CPM)

Critical Path Method is a sophisticated facility we will not be covering in detail here. Many options are available within **ivan** for CPM analysis, these are covered in detail in your user manual. However the CPM is a useful tool, even at this stage in our programme, for moving each activity to its earliest start date according to the dependencies you have drawn.

When you run the CPM, **ivan** will adjust the position of activities according to their earliest possible start and finish dates. These are defined when you attach dependencies to the activities. By default, any activity without a predecessor dependency is treated as though it has a start-no-earlier-than constraint by the CPM. Activities with predecessors will be moved to reduce the total float to zero, if possible. See your User Manual for a further explanation of the above.

#### CPM

- Run CPM
- Undo Last CPM Move
- Get CPM Options...
- Select D anglers
- Select C onstrained...
- Run CPM on Project...

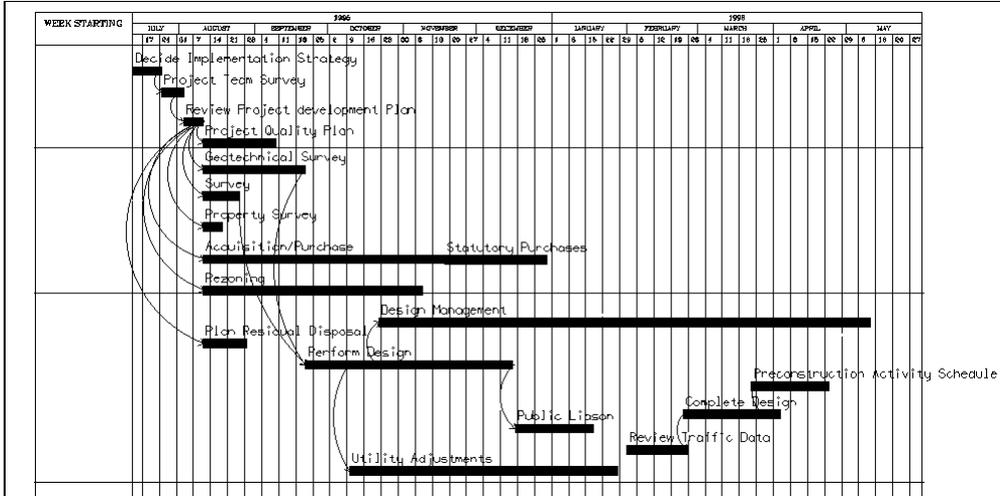
- 1) Choose the *CPM* menu.

The *CPM* menu choices appear.

- 2) Choose *Run CPM* from the menu.

The activities in the programme move to their earliest start dates.

If necessary, redraw the screen by holding down the shift key and press **ESC**.



If one or more activities has not ended up as shown, check the *Dependency Details* dialogue box of the relevant dependency. The options in the dialogue box should read the same as those pictured on page 30 in this chapter.

Change the options if necessary and run the CPM again.

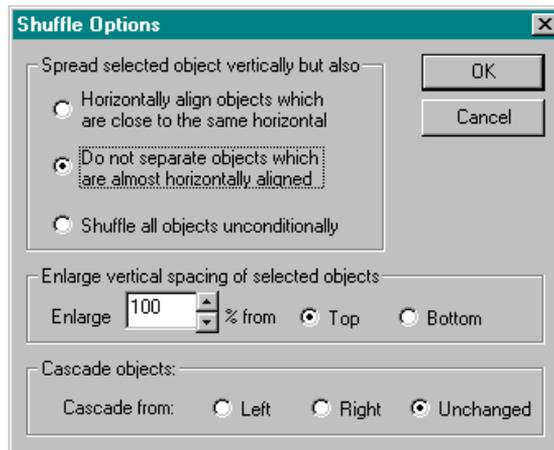
This has moved the activities to their earliest start and finish dates. Now you need to realign the vertical spacing. To do this you will use the *Shuffler*.

### Shuffle



- 1) Select all the activities in the programme using the selection rectangle.
- 2) Click on the *Drafting* menu and choose *Shuffle Options* from the menu.

The *Shuffle Options* dialogue box appears. For now you will leave the options set as they are.





- 3) Click 
- 4) Click on the *Drafting* menu and choose *Run Shuffler* from the menu.

The activities in the programme are re-aligned evenly spaced.

Several of the dependencies you have drawn from **Review Project Development Plan** may overlap, or otherwise need adjusting for neatness. It may be convenient to enlarge the view using the Magnifier while adjusting dependencies.

### Reshaping Dependencies

Dependencies are reshaped using the scissors.

- 1) Choose the Scissors tool, with the  sub-menu.
- 2) Click on one of the dependencies to be adjusted.
- 3) Move the dependency until its shape is acceptable.
- 4) Click.

Dependencies can be adjusted in this way so that they do not overlap and so that their curves are all approximately the same dimension. (See last example programme above).

### Drawing Lines

Lines can be drawn to divide the programme into sections for easier comprehension.



- 1) Choose the Pen and the Line Pen option.
- 2) Choose the Constrained option.

A rubber-band line (crossed lines) follows the Pen in the workspace.

- 1) Click on the left-most edge of the programme between the green and blue activities.
- 2) Draw a line across the Programme to the far right-hand edge.

A rubber-band line indicates where the line will be drawn.

- 3) Click.

The line is drawn onto the Programme.

- 4) Draw two more lines, one under **Rezoning** and the other under **Utility Adjustments**.

This should leave some empty space along the bottom of the programme for Milestones. See the next example programme below.

## Drawing Milestones



Milestones represent the end of a programme, or a significant point in the programme. They are created by making activities with duration of zero days.

- 1) Choose the Pen with the Activity Pen option.
- 2) Click on the black square on the colour pallet.
- 3) Click in the space at the bottom of the programme, roughly under the end of *Project Quality Plan*.
- 4) Without moving the Pen (or move the Pen to the left - backwards in time), click again.

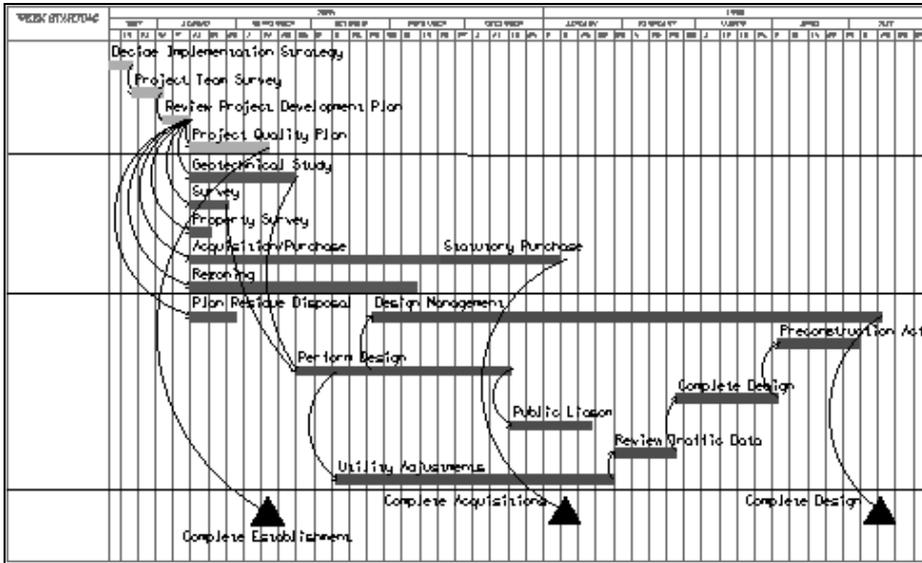
The *Activity Details* dialogue box appears as before.

- 5) Check that the number shown in the *Activity Duration* is 0. If it is not (if you moved the pen slightly to the right between clicks), click in the box and change it to 0.
- 6) Click in the *Name* field and type **Complete Establishment**.
- 7) Click  to exit from the dialogue box.

The milestone appears.

You set the default characteristics for Milestones in the *Change Activity Graphics* dialogue box (see page 22 in this chapter).

- 1) Draw a dependency from the end of *Project Quality Plan* to the centre of the milestone.
- 2) Draw another two milestones at the bottom of the Programme, linked to *Statutory Purchases* and *Design Management* respectively and named **Complete Acquisitions** and **Complete Design**.
- 3) Now tidy up again by running the CPM and Shuffler and by moving the lines if necessary. (See “Moving” on page 24 in this chapter)

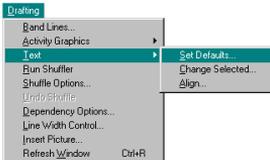


## Adding Text

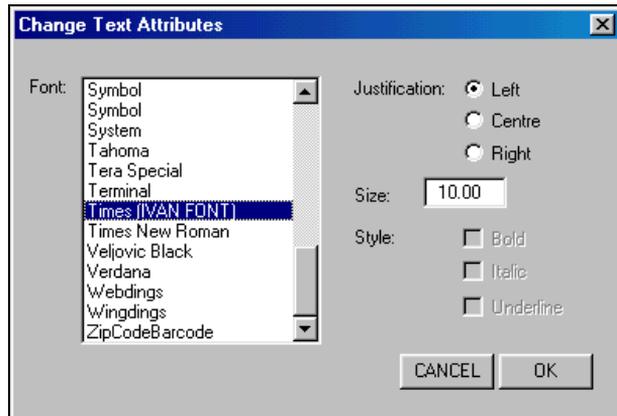
First you will change the default text attributes.

- 1) Choose *Set Defaults* from the *Text* menu.

The *Change Text Attributes* Dialogue Box appears.



- 2) Set the options as shown below and click .



- 3) Choose the Pen and then the Text option.
- 4) Click in the left margin of the programme, next to the green activities.
- 5) Type **Establishment**.

If you make an error typing, use the delete key to delete the mistake and retype the text.



- 2) Select the text.
- 3) Choose *Change Selected* from the text menu.

The *Change Text Attributes* dialogue box appears, see page 36 in this chapter.

- 4) Set the font to *Gothic* and the size to **15**
- 5) Click .

The text style changes.

- 6) Move the title to a central position in the title bar using the scissors.

Text colour can be changed using the hand tool as for other **ivan** objects. (See page 19 in this chapter).

#### Grid



### Blank Spaces

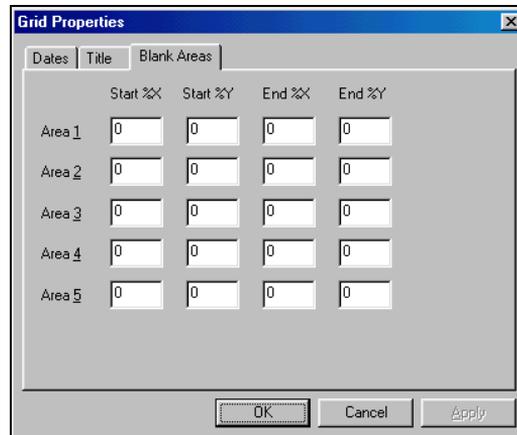
To add a blank area on the programme grid for explanatory text or a legend:

- 1) Choose *Blank Areas* from the *Grid* menu.

The *Calender Blank Areas* dialogue box appears.

- 2) Click in the first box (Area 1, Start %X) and type **60**.

This will cause the blank area to begin 60% along the X-axis.



- 3) Type **55** in the *Area 1, Start %Y* box
- 4) Type **95** in the *Area 1, End %X* box
- 5) Type **92** in the *Area 1, End %Y* box.
- 6) Click .

The blank area appears in the programme grid. Notice that only the grid is blanked out and thus line you drew earlier still passes through this area.

- 1) Shorten the band line using the Scissors and STRE sub-menu to the edge of the blank area.
- 2) Type **IVAN** in the blank area using the Pen and Text option.
- 3) Select the text **IVAN** and use *Change Selected* from the *Text* menu to change it to Times font, size **60**.
- 4) Using the Scissors, move the text **IVAN** to the centre of the blank area.

### Further Text Editing

The Scissor tool can be used to stretch text on the screen and also to rotate it. Try it out with the **IVAN** title.



- 1) Choose the Scissors and the STRE sub-menu.
- 2) Click on the text **IVAN**

A box appears showing the size of the text and it's angle of rotation.

- 3) Move the mouse until you are happy with the position and size.
- 4) Click

The text can still be edited by selecting it and then choosing the item *Change Selected* from the *Text* menu.

Congratulations, this completes the sample **ivan** Programme. See page 12 in this chapter for the final programme.

## Printing the Programme

**ivan** programmes are usually printed on a plotter.

- 1) Zoom to the full programme view (See page 29).

Plot

Plot Programme... Ctrl+P

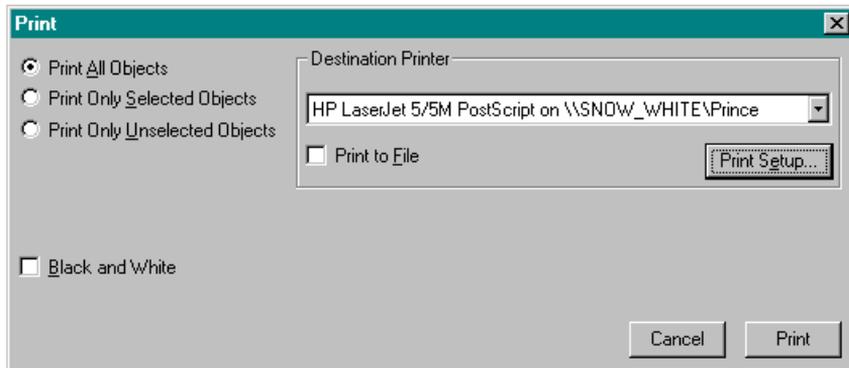
**ivan** plots on the printer what is currently visible on the screen.

- 2) Click on the Plot menu.

The Plot menu appears.

- 3) Choose *Plot Programme* from the *Plot* menu

The *Print* dialogue box appears.



This dialogue box allows you to customise the plotted output. For the time being, we will accept the default settings.

- 4) Click  .

If the plotter does not respond or the image is incomplete, see your system supervisor.

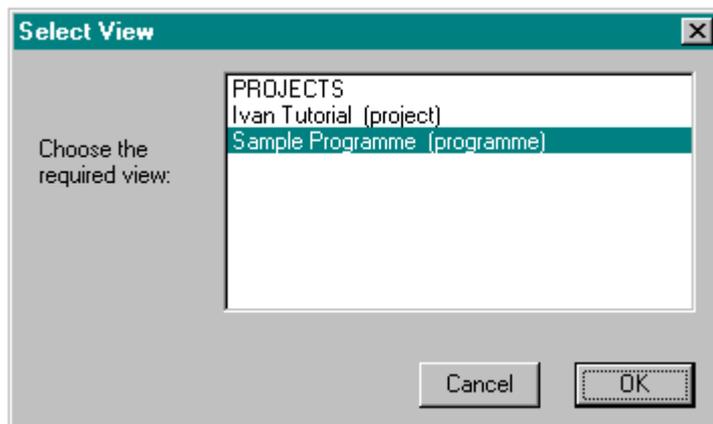
## Moving between Views

Once you have opened one or more Projects and Programmes you can move between the Project View, the Hierarchy View and the Programme View by using the *Select View* option from the menu.



- 1) Choose *Select View* from the *Sub-P* menu.

The *Select View* dialogue box appears. All currently open Programmes, Hierarchy Views and the Project View are shown.



See **ivan** Organisation, Chapter 2, page 8, for an explanation of these different Views.

- 1) Choose *Projects*.

- 2) Click .

You are now returned to the Project View.

Note that opened projects in the Project View are seen as open boxes, and opened programmes in the Hierarchy View are seen as open folders. To view already opened Projects or Programmes use *Select View* from the *Sub-P* menu.

## Closing the Programme



Notice the Project *Ivan Tutorial* is shown as an open box.

- 1) Select the Project.
- 2) Choose *Close Selected Programmes* from the *Sub-P* menu.



The box closes.

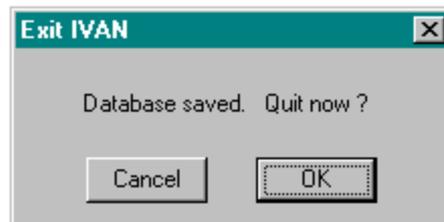
## Exiting from ivan



To finish this session:

- 1) Click on the *Exit* menu in the top-left corner of the screen.
- 2) Choose *Exit* from the menu.

The *Exit IVAN* dialogue box appears.



There is no need to save your work when using **ivan**. **ivan** saves changes to your programmes as they are made. The dialogue box above is just letting you know that your data is already saved and confirming that you want to leave the application.

- 1) Click  to exit from **ivan**.

Click  to return to **ivan**.

You can exit from **ivan** from within any View. All opened Programmes and Projects will automatically be

closed before **ivan** exits.