Input:

```
int a;
cin>>a
```

The IF/ELSE selection control statement

Often it is desirable for a program to take one branch if the condition is true and another if it is false. This can be done by using an if/else selection statement:

```
if(boolean-expression )
    {
    statement-1 ;
    }
else
    {
    statement-2 ;
    }
```

Again, if a sequence of statements is to be executed, this is done by making a compound statement by using braces to enclose the sequence:

```
if(boolean-expression )
{
    statements ;
}
else
{
    statements ;
}
```

ELSE IF multiple selection statement

Occasionally a decision has to be made on the value of a variable that has more than two possibilities. This can be done by placing if statements within other if-else constructions. This is commonly known as *nesting* and a different style of indentation is used to make the multiple-selection functionality much clearer. This is given below:

```
if(boolean-expression-1 )
    statement-1 ;
else if(boolean-expression-2 )
    statement-2 ;
...
else
    statement-N ;
```

SWITCH multiple selection statement

Instead of using multiple if/else statements C++ also provides a special control structure,switch. For an integer variable x, see footnote11, the switch(x) statement tests whether x is equal to the constant values x1, x2, x3, etc. and takes appropriate action. The default option is the action to be taken if the variable does not have any of the values listed.

```
switch(x )
{
case x1 :
    statements1 ;
    break;
case x2 :
    statements2 ;
    break;
case x3 :
```

```
        statements3 ;
        break;
default:
        statements4 ;
        break;
}
```

The break statement causes the program to proceed to the first statement after the switch structure. Note that the switch control structure is different to the others in that braces are not required around multiple statements. If you forget to put in one of the break statements, then execution can continue from one case statement into another. Sometimes you intend this to happen, but more often than not it is not intended and a source of many bugs. Be careful to include all the break statements unless you are very sure there are some you do not need.