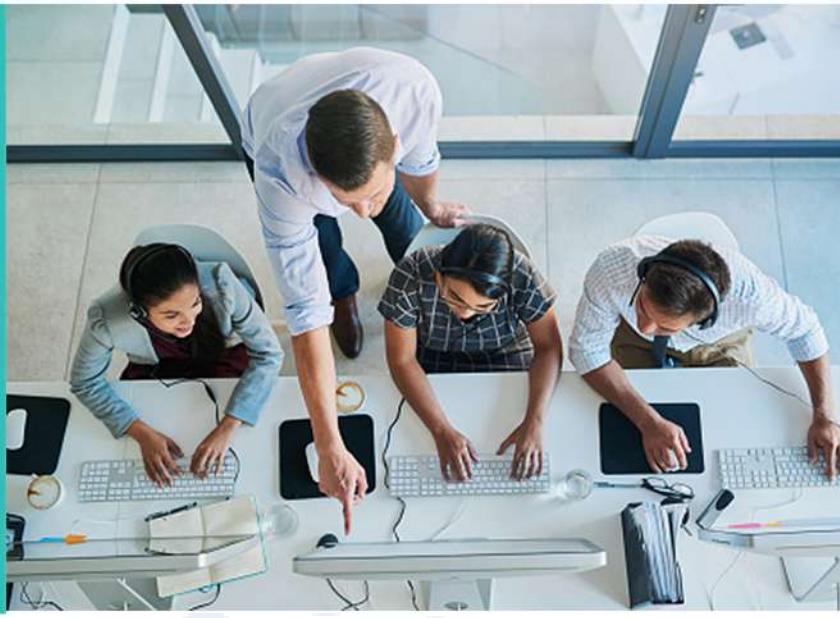
Andhra Pradesh State Skill Development Corporation



SciLab

Programming in Scilab
Conditional statements-2

Programming in Scilab

Select-case statement

Whenever we need to use a lot of if statements one after the other, the select-case statement can be used more conveniently. General form of the select statement is as follows:

```
select (x)
case  n1 then statement 1;end; what to do if x==n1
case  n2 then statement 2;end; what to do if x==n2
case  n3 then statement 3;end; what to do if x==n3
case  n4 then statement 4;end; what to do if x==n4 etc.
end
```

It begins with the keyword 'select' followed by a variable in parentheses which is the switching variable, in this case x. As many cases as needed are then listed. The reserved word 'case' is used to begin each case, followed by the value of the variable for that case, and the statements to be executed. The various case values can be in any order and if a value is not found, no action will be taken. Readers familiar with C may note that the switch-case in C has subtle differences with Scilab's select case. Below are two programs using if-statement and select case statement.

First consider using if statement

```
choice=input ("Type choice as 1,2,3,4");
if(choice==1) print(":-)");end
if(choice==2) print(":-o");end
if(choice==3) print(":-(");end
if(choice==4) print(":-D");end
```

The program contains an if statement corresponding to each choice the user will have Depending upon the choice chosen by the user the statement block contained in that if statement will be invoked.

Note: What will be the result if the user types the choice as 25?

Now consider the same program rewritten into select-case

```
select(choice)
case 1 then printf(":-)");
case 2 then printf(":-o");
```

```
case 3 then printf(":-(");
case 4 then printf(":-D");
else printf("you typed an invalid choice\n");
end
```

The select statement executes one set of statements from a number of alternatives (cases). The optional else provides an alternative statement if none of the cases are selected.

Let us quickly do a realistic example: electricity consumers are divided into category 1,2, and 3. Let us read the category and number of electricity used and then print out the charge according to the following rates:

Category	Rate
1	Rs 11/unit
2	Rs 12/unit
3	Rs 13/unit

```
x=input("Which is your category-1,2 or 3?\n");
y=input("Enter the number of units consumed\n");
select x
case 1 then printf("charge is %d\n",y*11);end
case 2 then printf("charge is %d\n",y*12);end
case 3 then printf("charge is %d\n",y*14);end
else printf("Invalid category");end
```

Output:

Which is your category-1,2 or 3?

- 2

Enter the number of units consumed

- 11

Charge is 11*12=132

Let us now write a program to scan a character and print out if it's a vowel.

```
y=input("enter a character", "string");
select y
case "a" then printf("%c is a vowel",y);end
case "e" then printf("%c is a vowel",y);end
case "i" then printf("%c is a vowel",y);end
case "o" then printf("%c is a vowel",y);end
```

case “u” then printf(“%c is a vowel”,y);end

else printf(“%c is not a vowel” ,y);end

Output:

Enter a character ------>a

a is a vowel