

## C-31 $\Rightarrow$ Switch statements in C

Syntax:

switch (expression)  
 $\xrightarrow{\text{=E}}$  integer or character value as

case value 1:

Block of statements 1;

break;

case value 2:  
 $\text{=E}$

Block of statements 2;

break;

default:

default statements;

statement x;

}

Program ①

```
void main()
```

```
{
```

```
int a;
```

```
printf("Enter a:\n");
```

```
scanf("%d", &a);
```

```
switch(a)
```

```
{
```

```
case 1: printf("JK");
```

```
break;
```

```

case 2: printf("Jenny");
        break;
default: printf("Bye");
        }
        printf("out of switch...");
}

```

o/p

Enter a: 2
Jenny
out of switch

Program: (2)

```

void main()
{

```

```

    int a;

```

```

    printf("Enter a: \n");

```

```

    scanf("%d", &a);

```

```

    switch(a * 6)
    {

```

```


```

```

        case 1:

```

```

            printf("JK");

```

```

            break;

```

```

        case 2:

```

```

            printf("Jenny");

```

```

            break;

```

```

        default:

```

```

            printf("Bye");

```

```

    }

```

```

    printf("out of switch...");
}

```

o/p:

Enter a: 5
Bye
out of switch

Program (3)

```

// switch(a * b + c);

```

Program (4)

```

// switch(1 + 2 * 3 / 4)

```

Program (5)

```

// int a; float b;

```

```

// switch(a + b)

```

Error

Program (6)

```

// break;

```

Program (7)

any order

```

// case 3:

```

```

// case 2:

```

```

// case 5:

```

\* switch is only used to check Equality Condition.

\* switch cannot compare Relational Condition like  $>$ ,  $<$ ,  $\geq$ ,  $\leq$ .

\* Switch can take integer or character constants.

Program ⑧ // char c = 'a';

// switch(c)

// Case 'a':

printf("small case 'a'");

break;

Case 'b':

printf("small case 'b'");

break;

default:

printf("Not a Small case letter");

}

printf("out of switch statements");

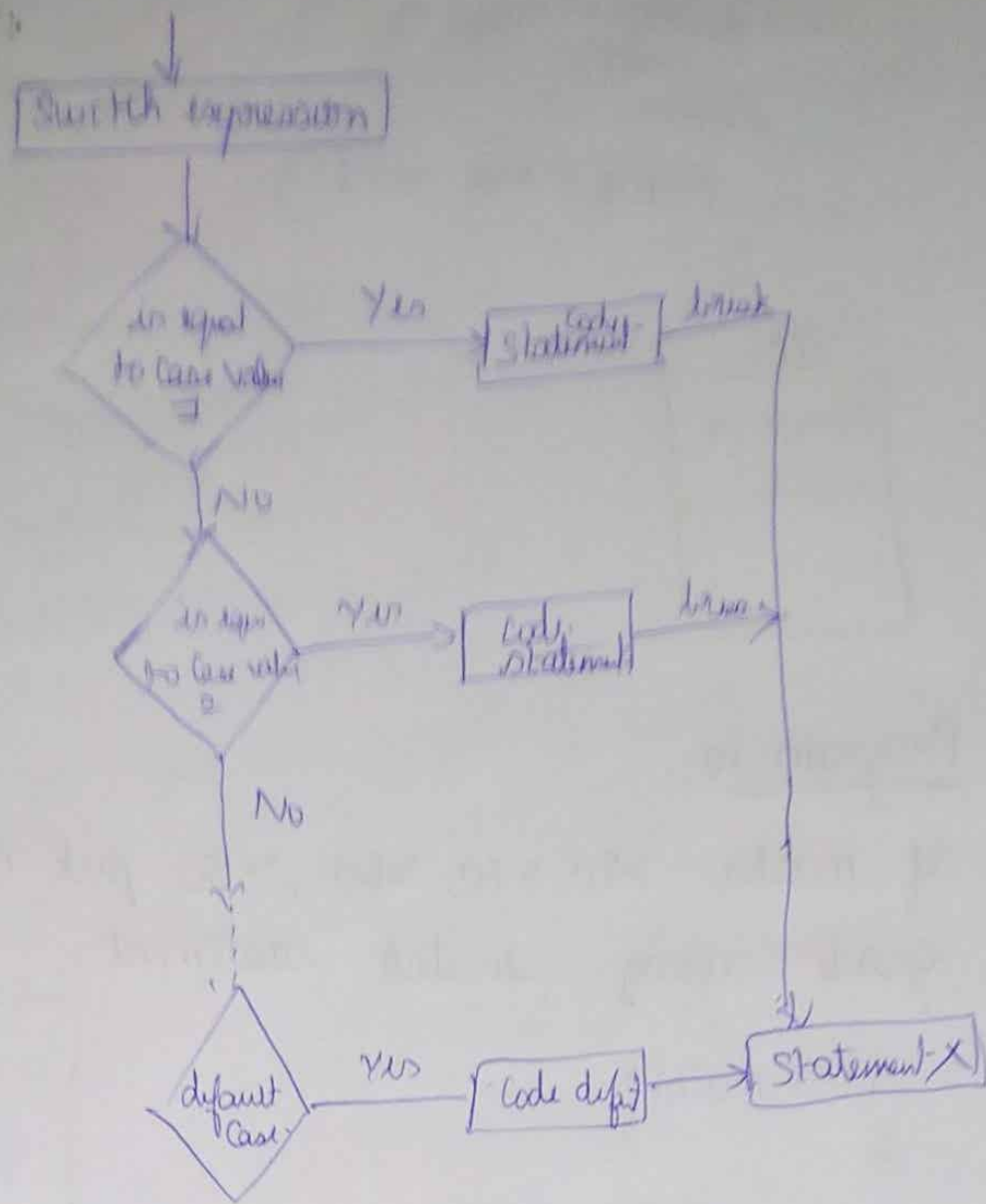
3.  
//

Enter c = b

Small case b

out of switch.

Flow chart:



Program 9 :: To check entered character is vowel?

```

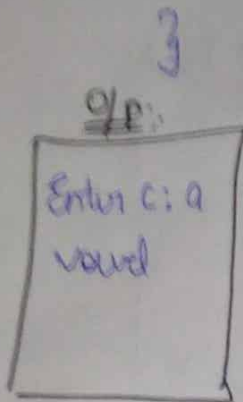
char c;
printf("Enter c:");
scanf("%c", &c);
switch(c)
{
    case 'a':
    case 'e':
    case 'i':
    case 'o':
    case 'u':

```

```

printf ("Vowel");
break;
default:
printf ("Not vowel");

```



### Program 10:

If marks >80, >70, >60, >50 put A, B, C, D grade using switch statement.

```

void main()
{

```

```

    int marks;

```

```

    printf ("Enter marks: \n");

```

```

    scanf ("%d", &marks);

```

```

    switch (marks/10)
    {

```

```

        case 10:

```

```

        case 9:

```

```

        case 8:

```

```

        case 7:

```

```

        case 6:

```

```

        case 5:
            printf ("grade A");

```

```

            break;
    }
}

```



Case 7:

```
printf ("grade B");
```

```
break;
```

Case 6:

```
printf ("grade C");
```

```
break;
```

default:

```
printf ("grade D");
```

```
}
```

```
printf ("out of switch .... \n");
```

```
}
```

O/P :

```
Enter marks: 9
grade A
```

marks  
10

$\Rightarrow$  e.g.  $\frac{100}{10} \Rightarrow 10$  (Case 10)

$\frac{90}{10} \Rightarrow 9$  (Case 9)

$\frac{80}{10} \Rightarrow 8$  (Case 8)

$\frac{70}{10} \Rightarrow 7$  (Case 7)     $\frac{74}{10} \Rightarrow 7$  (Case 7)

$\frac{65}{10} \Rightarrow 6$  (Case 6)

$\frac{52}{10} \Rightarrow 5$  (default)

## CODE 1:

```
1  #include <stdio.h>
2  #include <stdlib.h>
3  /* 1 switch */
4  int main()
5  {
6      int a;
7      printf("Enter value:\n");
8      scanf("%d", &a);
9      switch(a)
10     {
11     case 1:
12         printf("Pandian..\n");
13         break;
14     case 2:
15         printf("Thangam..\n");
16         break;
17     default:
18         printf("Others...\n");
19     }
20     printf("Out of switch statement...\n");
21     getch();
22 }
```

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```
Enter value:
2
Thangam..
Out of switch statement...
```

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```
Enter value:
4
Others...
Out of switch statement...
```

## CODE 2:

```
1  #include <stdio.h>
2  #include <stdlib.h>
3  /* 2 switch */
4  int main()
5  {
6      int a;
7      printf("Enter value:\n");
8      scanf("%d", &a);
9      switch(a*1) //switch with expression
10     {
11         case 1:
12             printf("Pandian..\n");
13             break;
14         case 2:
15             printf("Thangam..\n");
16             break;
17         default:
18             printf("Others...\n");
19     }
20     printf("Out of switch statement...\n");
21     getch();
22 }
```

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```
Enter value:
2
Thangam..
Out of switch statement...
```

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```
Enter value:
3
Others...
Out of switch statement...
```



## CODE 3:

```
1  #include <stdio.h>
2  #include <stdlib.h>
3  /* 3 switch */
4  int main()
5  {
6      int a,b,c;
7      printf("Enter values:\n");
8      scanf("%d%d%d",&a,&b,&c);
9      switch(a*b+c) //switch with expression
10     {
11     case 1:
12         printf("Pandian..\n");
13         break;
14     case 2:
15         printf("Thangam..\n");
16         break;
17     default:
18         printf("Others...\n");
19     }
20     printf("Out of switch statement...\n");
21     getch();
22 }
```

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Enter values:

1

1

1

Thangam..

Out of switch statement...

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Enter values:

2

1

1

Others...

Out of switch statement...

## CODE 4:

```
1  #include <stdio.h>
2  #include <stdlib.h>
3  /* 4 switch */
4  int main()
5  {
6      //int a,b,c;
7      //printf("Enter values:\n");
8      //scanf("%d%d%d",&a,&b,&c);
9      switch(1*2+4/2) //switch with only integer expression
10     {
11     case 1:
12         printf("Pandian..\n");
13         break;
14     case 5:
15         printf("Thangam..\n");
16         break;
17     default:
18         printf("Others...\n");
19     }
20     printf("Out of switch statement...\n");
21     getch();
22 }
```

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```
Others...
Out of switch statement...
```

```
1  #include <stdio.h>
2  #include <stdlib.h>
3  /* 4 switch */
4  int main()
5  {
6      //int a,b,c;
7      //printf("Enter values:\n");
8      //scanf("%d%d%d",&a,&b,&c);
9      switch(1*2+4/2) //switch with only integer expression
10     {
11     case 4:
12         printf("Pandian..\n");
13         break;
14     case 5:
15         printf("Thangam..\n");
16         break;
17     default:
18         printf("Others...\n");
19     }
20     printf("Out of switch statement...\n");
21     getch();
22 }
```

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```
Pandian..
Out of switch statement...
```

## CODE 5:

```
2  #include <stdlib.h>
3  /* 5 switch */
4  int main()
5  {
6      int a;
7      float b;
8      printf("Enter values:\n");
9      scanf("%d%f", &a, &b);
10     switch(a+b) //switch cant hold float values, it can hold only int and char
11     {
12         case 1:
13             printf("Pandian..\n");
14             break;
15         case 2:
16             printf("Thangam..\n");
17             break;
18         default:
19             printf("Others...\n");
20     }
21     printf("Out of switch statement...\n");
22     getch();
23 }
24
```

Logs & others

Logs & others

File	Line	Message
D:\1. COMP...		=== Build: Debug in 5_switch (compiler: GNU GCC Compiler) ===
D:\1. COMP...		In function 'main':
D:\1. COMP...	10	error: switch quantity not an integer
D:\1. COMP...	22	warning: implicit declaration of function 'getch'; did you mean 'g...
		=== Build failed: 1 error(s), 1 warning(s) (0 minute(s), 0 second(...

## CODE 6:

```
1  #include <stdio.h>
2  #include <stdlib.h>
3  /*6 switch */
4  int main()
5  {
6      int a;
7      printf("Enter value:\n");
8      scanf("%d",&a);
9      switch(a)
10     {
11         case 2: //case values can be in any order
12             printf("Pandian..\n");
13             break;
14         case 1: //case values can be in any order
15             printf("Thangam..\n");
16             break;
17         default:
18             printf("Others...\n");
19     }
20     printf("Out of switch statement...\n");
21     getch();
22 }
```

Logs & others

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```
Enter value:
2
Pandian..
Out of switch statement...
```

## CODE 7:

```
1  #include <stdio.h>
2  #include <stdlib.h>
3  /*7 switch */
4  //break is necessary to terminate the switch case, True means use break
5  //If no break then all switch cases will be executed....
6  int main()
7  {
8      int a;
9      printf("Enter value:\n");
10     scanf("%d",&a);
11     switch(a)
12     {
13         case 2:
14             printf("Pandian..\n");
15             //break;
16         case 1:
17             printf("Thangam..\n");
18             break;
19         default:
20             printf("Others...\n");
21     }
22     printf("Out of switch statement...\n");
23     getch();
24 }
```

Logs & others

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```
Enter value:
2
Pandian..
Thangam..
Out of switch statement...
_
```

## CODE 8:

```
1  #include <stdio.h>
2  #include <stdlib.h>
3  /*7 switch */
4  //break is necessary to terminate the switch case, True means use break
5  //If no break then all switch cases will be executed....
6  int main()
7  {
8      int a;
9      printf("Enter value:\n");
10     scanf("%d",&a);
11     switch(a)
12     {
13     case 2:
14         printf("Pandian..\n");
15         //break;
16     case 1:
17         printf("Thangam..\n");
18         //break;
19     default:
20         printf("Others...\n");
21     }
22     printf("Out of switch statement...\n");
23     getch();
24 }
```

Logs & others

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```
Enter value:
2
Pandian..
Thangam..
Others...
Out of switch statement...
```



## CODE 9:

```
1  #include <stdio.h>
2  #include <stdlib.h>
3  /* 8 switch */
4  int main()
5  {
6      char c;
7      printf("Enter value:\n");
8      scanf("%c",&c);
9      switch(c)
10     {
11     case 'a':
12         printf("Smaller case a...");
13         break;
14     case 'b':
15         printf("smaller case b....");
16         break;
17     default:
18         printf("Other letter....");
19         break;
20     }
21     getch();
22 }
```

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```
Enter value:
a
Smaller case a...
```

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```
Enter value:
d
Other letter....
```

## CODE 10:

```
1  #include <stdio.h>
2  #include <stdlib.h>
3  /* 9 switch */
4  /* Vowel or not */
5  int main()
6  {
7      char c;
8      printf("Enter values:\n");
9      scanf("%c", &c);
10     switch(c)
11     {
12         case 'a':
13         case 'e':
14         case 'i':
15         case 'o':
16         case 'u':
17             printf("Vowel...\n");
18             break;
19         default:
20             printf("Not Vowel...\n");
21     }
22     printf("Out of switch....\n");
23     getch();
24 }
```

Logs & others

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```
Enter values:
e
Vowel...
Out of switch....
```

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```
Enter values:
d
Not Vowel...
Out of switch....
```

## CODE 11:

```
1  #include <stdio.h>
2  #include <stdlib.h>
3  /* 10 switch */ //Put grade for marks....
4  int main()
5  {
6      int marks;
7      printf("Enter marks:\n");
8      scanf("%d",&marks);
9      switch(marks/10)
10     {
11         case 10:
12         case 9:
13         case 8:
14             printf("Grade A...\n");
15             break;
16         case 7:
17             printf("Grade B...\n");
18             break;
19         case 6:
20             printf("Grade C...\n");
21             break;
22
23         default:
24             printf("Grade D...\n");
25     }
26     printf("Out of Switch...");
27     getch();
28 }
```

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```
Enter marks:
100
Grade A...
Out of Switch...
```


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Enter marks:

84

Grade A...

Out of Switch...


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Enter marks:

73

Grade B...

Out of Switch...■


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Enter marks:

64

Grade C...

Out of Switch...■

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Enter marks:

54

Grade D...

Out of Switch...■