

Chapter 3: Decision

Chapter 4: Loops

```
//swap two numbers
#include <stdio.h>

int main()
{
    int x=13, y=15, t;
    printf("Enter two numbers\t");
    // scanf("%d%d",&x, &y);

    printf("\nBefore Swap:\t x=%5d and y=%5d",x,y);
    // t=x; x=y; y=t; // Method 1 : using third variable

    x=x+y; y=x-y; x=x-y; //Method 2 : using + and - operator

    // x=x*y; y=x/y; x=x/y; //Method 3 : using * and / operator
    printf("\nAfter Swap:\t x=%5d and y=%5d",x,y);
    return 0;
}
//*/
```

```
1 // Decision: if (singleton)    if-else (binary)    nested if-else or Switch (multi-decision)
2
3 /*
4 #include <stdio.h>
5 int main()
6 {
7     int a;
8     printf("\nEnter a number\t");
9     scanf("%d",&a);
10
11     if(a>10)
12         printf("Hi we got a number Greater than 10");
13
14     return 0;
15 }
16 */
17
```

```
18
19 // even odd
20 #include <stdio.h>
21 int main()
22 {
23     int a;
24     printf("\nEnter a number\t");
25     scanf("%d",&a);
26
27     if(a%2 == 0)
28         printf("Even");
29     else
30         printf("Odd");
31
32     return 0;
33 }
34
```

```
36 if(2+3*2)           //Conditional Statement/expression will be evaluated first & then check wheather the value is Non0 or 0
37     printf("OK");
38 if (4%2)
39     printf("NOT PRINTED");
40 if(2-2)
41     printf("NOT PRINTED");
42 if (-2)
43     printf("PRINTED");
44
45 int a=10;
46 if(a==10)
47     printf("PRINTED");
48
49 int a=10;
50 if(a=10)
51     printf("PRINTED");
52
53 int a=10;
54 if(a=5)
55     printf("PRINTED");
56
57 int a=10;
58 if(a=0)
59     printf("NOT PRINTED");
60 |
```

```
62 if(-5)
63     printf("PRINTED");
64
65 if()
66     printf("PRINTED"); //ERROR : NO Conditions found
67
68
69 int a;
70 if(a=0)
71     printf("NOT PRINTED");
72
73 int a=2, b=3;
74 if(a>b)
75     printf("NOT PRINTED");
76
77
78 int a=2, b=3;
79 if(a>b) // for FALSE expression it will ignore the 'immediate below line'
80     printf("HELLO");
81 printf("CU");
```

```
87
88
89 // C is a free-form language. ; is end of statement/expression. ; is the delimiter |
90
91 #include <stdio.h>
92 int main()
93 {
94     int a;
95     printf("\nEnter a number\t");
96     scanf("%d",&a);
97
98     if(a>10)
99         printf("Hi we got a number Greater than 10");
100
101     return 0;
102 }
103
```

```
91
92     int a=5;
93     if(a<1);
94     printf("PRINTED");
95
96     int a=5;
97     if(a<1)
98     printf("NOT PRINTED");
99
100
```

```
102 // Nested If Else
103
104 int tot_marks;
105 scanf("%d",&tot_marks);
106
107 if(tot_marks>90)
108     printf("Grade O");
109 else if(tot_marks>80)
110     printf("Grade A");
111 else if(tot_marks>70)
112     printf("Grade B");
113 else if(tot_marks>60)
114     printf("Grade C");
115 else //default
116     printf("Grade F");
```


// for more than one statements {} is must

```
125 //Conditional Operator
126
127 if(a>b)
128     c=1;
129 else
130     c=0;
131
132 c = a>b ? 1 : 0;
133 //variable = condition ? TRUE : FLASE
134
135
```

```
137 // even odd
138 #include <stdio.h>
139 int main()
140 {
141     int a;
142     printf("\nEnter a number\t");
143     scanf("%d",&a);
144
145     if(a%2 == 0)    printf("Even");    else    printf("Odd");    // if is a decision Keyword
146
147     a%2 == 0 ? printf("Even"); : printf("Odd");    // conditional Operator
148
149     return 0;
150 }
151
```

```
152  
153 | printf("Enter a number");  
154 scanf("%d%d",&x,&y);  
155 max = x>y ? x : y;  
156 min = x<y ? x : y;  
157 printf("Max is %d and min is %d", max, min);  
158
```