

## CHAPTER NO. 04 CONDITIONAL CONTROL STRUCTURE

### EXERCISE

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#### Short Questions

**Q. No. 01: Differentiate between if and if-else selection structure.**

**Ans: If Statement:-** It is the simplest form of decision structure. It executes or skip statement or statements on the basis of condition. If condition is true the statement or statements will execute otherwise not.

Example:

```
main()
{
Int k=1;
If(k<5)
{ printf(" value of k=%d", k);}
getch();
}
```

**If-else Structure:-** It is used to make two way decisions. It executes one block of statement(s) when condition is true and the other block of statement(s) when it is false.

Example:

```
main()
{
Int k=1;
If(k<5)
{
printf(" value of k is less than 5 K=%d", k);
}
else
{
printf(" value of k is greater than 5 K=%d", k);
}
getch();
}
```

**Q. No. 02: Differentiate between else-if and switch selection structures.**

**Ans: Else-if Statement:-** It can be used to choose one block of statement(s) from many block of statement(s).

OR

It uses multiple expressions for multiple choices.

It can check range of values.

It is flexible in using conditions.

Example:

```
if( condition1)
{
Statement 1;
Statement 2;
}
else if ( Condition2)
{
Statement 1;
Statement 2;
}
else
{
Statement 1;
Statement 2;
}
```

*Switch selection structure:-*

Single expression for multiple choices.

It cannot check range of values.

Not flexible in using conditions.

**Q. No. 03: What is nested selection structure?**

**Ans:** *Nested selection structure:-* The selection structure that is within another selection structure is known as nested selection structure i.e ( if, if-else, else-if or switch statement).

**Q. No. 04: Write the following statement using if-else statement.**

$K=(a+b>20)?a+3*b: a-b;$

**Ans:**

if(a+b>20)

k=a+3\*b;

else

k=a-b;

**Q. No. 05: Write the following statement using conditional operator**

if(x>y)

Z=(x+y)/3;

else

Z=x-5\*y;

**Ans:**

$Z=(x>y)?(x+y)/3:x-5*y;$

**Q. No. 06: What will be the output of the following code?**

```
int n=28 , count=15, sum=30;
if(n<25)
{ count=count+5;
  Printf("\n Count=%d", count);
}
else
{ count=count-5;
  sum=sum+n;
  printf("\n count=%d", count);
  printf("\n sum=%d", sum);
}
```

**Ans:** output of the program will be

Count=10

Sum=58

**Q. No. 07: What will be the output of the following code?**

```
char ch= 'c';
switch(ch)
{
    case'a':
        printf("\n Good morning"); break;
    case'b':
        printf("\n Have a nice day"); break;
    case 'c':
    case 'd':
    case 'e':
        printf("\n Good bye"); break;
}
```

**Ans:**

### Extensive Questions

**Q. No. 01: What is control structure? Explain conditional control structure with examples.**

**Ans:** *Control structure*:- A statement that is used to control the flow of execution in a program is called control structure. Control structures are important in programming languages to implement the programming logic.

*Conditional Structure*:- The conditional structure executes a statement(s) based on condition i.e if, if-else, switch etc..

Example:

```
main()
{
char ch= 'c';
    switch(ch)
    {
        case'a':
            printf("\n Good morning"); break;
        case'b':
            printf("\n Have a nice day"); break;
        case 'c':
            printf("\n Have you done Home Work"); break;
        default:
            printf("\n Good bye");
    }
}
```

```
int n=2, count=11;
if(n<25)
{ count=count+5;
  Printf("\n Count=%d", count);
}
```

**Q. No. 02: What is the purpose of switch statement? Explain with the help of one example.**

**Ans:** *Switch statement*: It is used in a situation when a single block of statement(s) is to be executed among many choices.

Example:

```
main()
{
char ch;
printf("Enter grade");
scanf("%c", &ch);

    switch(ch)
    {
        case'a':
        case'A':
            printf("\n Excellent"); break;
        case'b':
        case'B':
            printf("\n Well done"); break;
        case 'c':
```

```
case 'C':  
case 'd':  
case 'D':  
    printf("\n Satisfactory"); break;  
default:  
    printf("\Fail");  
}  
}
```