



GLOBAL SCHOOL

Affiliated to CBSE, New Delhi, Affiliation No. 830346

Subject: Computer science

Chapter - VI

Conditional Control Structures (Answers)

Class: X

A. Fill in the blanks:

1. Decision
2. Two
3. Switch
4. Break
5. Branching, Looping
6. Nested if

B. State True or False:

1. False
2. True
3. True
4. True
5. True
6. False
7. False

C. Multiple Choice Questions:

1. (b) Bi-directional
2. (b) Curly braces
3. (a) Default
4. (c) Is compulsory to be used in a switch statement.
5. (d) Switch
6. (b) Break
7. (a) Alt+F+O

D. Answer in one word or sentence:

1. Break statement takes the program control out of the program.
2. Switch statement can be used to check multiple conditions.
3. Compound statements

4. If control and Switch case statements
5. Relational operator is used for making two way decisions.

E. Find out errors, if any:

1. Remove semicolon after the statement if $a > 10$;
2. Remove round braces after the break (); statement
3. Replace the word 'zero' with the number 0 in the statement if $(b > \text{zero})$

F. Answer the following:

1. Conditional control structures allow the programmer to control the flow of execution of statements based upon different conditions. These statements decide what action is to be taken and execute the set of instructions accordingly.

2. The if-else control structure is a branching statement. It is a logical situation where either of the two actions are to be performed depending upon the certain condition. If the condition is true then if block gets executed otherwise, else block gets executed.

3. The if-else statement is a two way branching statement, whereas if else if has a ladder of if else constructs. When the expression in the 'if condition' is false, another if else construct is used to execute a set of statements based on the condition. The following is the example

if($a \% 2 == 0$)	if(percentage ≥ 85)
Printf("Number is even \n");	printf("Distinction \n");
Else	else if(percentage ≥ 60)
Printf("Number is odd \n");	printf("First Division \n");
	else if(percentage ≥ 50)
	printf("Second Division\n");

4. The Switch case control structure is used when there is a requirement to check multiple conditions in a program. It allows a variable to be tested for equality against a list of cases. When one value matches the value of the variable, the computer continues executing the program from that point. If none of the cases matches, the compiler executes the default statement.

5. The default case gets executed when the value of the given variable does not match with any of the case value.

6. (a) Compound statement: A sequence of statements enclosed within a pair of braces is called a compound statement.

For example: `int a=8, b=7, c =9; if (a > b)`

```
int d = a +b+ C; printf("%d", d); a++; b--;
```

b) Break statement: This statement is used to bring the control out of the switch expression. It should be written with every case. If we do not write break statement at the end of each case then all the subsequent cases will get executed. The following segment explains the use of break statement:

```
int ch=2; switch( ch)
```

```
case 1:
printf("\n Color is red" );
break;
case 2:
printf("\n Color is green");
break;
case 3:
printf("\n Color is blue");
break;
```

LAB ACTIVITY

1) Write a program to print the largest of three numbers.

```
#include<stdio.h>

#include<conio.h>

void main()

{

int a=15,b=90,c=10;

clrscr();

if(a>=b && a>=c)
printf(" Largest number is %d ",a);
if(b>=c && b>=a)
printf(" Largest number is %d ",b);
if(c>=a && c>=b)
printf(" Largest number is %d ",c);
getch();
}
```

2) Write a program to check whether the given number is a Buzz number or not.

```
#include <stdio.h>

#include<conio.h>

void main()

{
```

```

int n, i, flag=0;

printf("Enter a positive integer: ");

scanf("%d",&n); for(i=2;i<=n/2;++i)

if(n%i==0)

flag=1;

break;

if (flag==0)
printf("%d is a prime number.",n);
else
printf("%d is not a prime number.",n);
getch();
}

```

3) Write a program to find the root of a quadratic equation.

```

#include<stdio.h>
#include<conio.h>
#include<math.h>
void main()
{
int a=1,b=4,c=2,d;
float r1,r2; d=b*b-4*a*c;
clrscr();

if(d>=0)

r1=(-b+sqrt(d))/(2*a);

r2=(-b-sqrt(d))/(2*a);

printf("\n Root1 = %f",r1);

printf("\n Root2 = %f",r2);
}
else
printf("\n Roots are imaginary");

```

```
getch();  
}
```

4. Write a program to check whether the number is positive or negative or zero using switch case statement.

```
#include <stdio.h>  
#include <conio.h>  
void main()  
{  
char n;  
printf("Enter the value");  
scanf("%c",&n);  
switch(n)  
  
case-?;  
printf("You entered negative.");  
break;  
case '0';  
printf("number is zero.");  
break;  
default: printf("number is positive ");  
break;  
getch();  
}
```

5) Write a program to check whether the triangles are equilateral or isosceles.

```
#include<conio.h>  
#include<stdio.h>  
void main()  
{  
  
int x,y,z;  
printf("\n Enter the sides of a triangle");  
scanf("%d %d %d",&x,&y,&z);  
if ((x==y) && (y==z))  
printf("\n The triangle is equilateral");  
else if ((x==z) || (y==z) || (x==y))  
printf("\n The triangle is isoseles");
```

```
else
printf("\n The triangle is scalene");
getch();
```

6) Write a program to check whether the entered character is a vowel or a consonant using switch case statement.

```
#include<stdio.h>
#include<conio.h>
void main()
{
char c;
printf("Enter character \n");
scanf("%c", &c);
clrscr();
switch(c)

case 'a':

case 'e':

case 'r':

case 'o':

case 'u':

printf("Its a vowel");

break;

default: printf("It is not a vowel ");
break;

getch();
}
```