

## C Programming Conditional Statement Assignment

1. #include<stdio.h>

main()

```
{
    int a,b;
    printf("Enter two integers: ");
    scanf("%d%d",&a,&b);
    if(a==b)
    {
        printf("Number1 and Number2 are equal.");
    }
    else
    {
        printf("Number1 and Number2 are not equal");
    }
}
```

Output - Enter two integers: 14 14  
Number1 and Number2 are equal.

2. #include<stdio.h>

main()

```
{
    int num;
    printf("Enter number: ");
    scanf("%d",&num);
    if(num%2==0)
    {
        printf("%d is even integer.",num);
    }
    else
    {
        printf("%d is odd integer.",num);
    }
}
```

Output - Enter number: 9  
9 is odd integer.

3. #include<stdio.h>

main()

```
{
    int num;
    printf("Enter number: ");
    scanf("%d",&num);
    if(num>0)
```

```

{
printf("%d is a positive number",num);
}
else
{
printf("%d is a negative number",num);
}
}

```

Output - Enter number: 23  
23 is a positive number

```

4. #include<stdio.h>
main()
{
int year;
printf("Enter year: ");
scanf("%d",&year);
if(((year%4==0)&&(year%100!=0)) || (year%4==0))
{
printf("%d is a leap year",year);
}
else
{
printf("%d is not a leap year",year);
}
}

```

Output - Enter year: 2024  
2024 is a leap year

```

5. #include<stdio.h>
main()
{
    int age;
    printf("Enter age: ");
    scanf("%d",&age);
    if(age>=18)
    {
        printf("Congratulation! You are eligible for casting your vote.");
    }
    else{
        printf("Sorry, You are not eligible for casting your vote.");
    }
}

```

Output - Enter age: 22

Congratulation! You are eligible for casting your vote.

6. #include<stdio.h>

void main()

```
{
    int m,n;
    printf("Input the number");
    scanf("%d",&m);
    if(m>0)
        n=1;
    else if(m==0)
        n=0;
    else
        n=-1;
    printf("The value of n= %d",n);
}
```

Output - Input the number -6

The value of n= -1

7. #include<stdio.h>

main()

```
{
    float height;
    printf("Enter the height (in cms): ");
    scanf("%f",&height);
    if(height<150)
        printf("The person is Dwarf.");
    else if ((height>=150) && (height<=165))
        printf("The person is average height.");
    else if ((height>165)&&(height<=195))
        printf("The person is taller.");
    else
        printf("Abnormal height");
}
```

Output -Enter the height (in cms): 165

The person is average height.

8. #include<stdio.h>

main()

```
{
    int a,b,c;
    printf("1st Number = ");
    scanf("%d",&a);
    printf("2nd Number = ");
    scanf("%d",&b);
    printf("3rd Number = ");
    scanf("%d",&c);
}
```

```

    if(a>b && a>c)
    {
        printf("The 1st Number is the greatest among three.");
    }
    else if(b>a && b>c)
    {
        printf("The 2nd Number is the greatest among three.");
    }
    else
    {
        printf("The 3rd Number is the greatest among three.");
    }
}

```

Output - 1st Number = 32

2nd Number = 56

3rd Number = 78

The 3rd Number is the greatest among three.

9. #include<stdio.h>

```

main(){
    int a,b;
    printf("Enter two coordinate point(X,Y): ");
    scanf("%d%d",&a,&b);
    if(a>0 && b>0)
    {
        printf("The coordinate point (%d,%d) lies in the First quadrant.",a,b);
    }
    else if(a<0 && b>0)
    {
        printf("The coordinate point (%d,%d) lies in the Second
quadrant.",a,b);
    }
    else if(a<0 && b<0)
    {
        printf("The coordinate point (%d,%d) lies in the Third quadrant.",a,b);
    }
    else if(a>0 && b<0)
    {
        printf("The coordinate point (%d,%d) lies in the Fourth quadrant.",a,b);
    }
    else
    {
        printf("Invalid points");
    }
}

```

Output - Enter two coordinate point(X,Y): -4 7

The coordinate point (-4,7) lies in the Second quadrant.

```

10. #include<stdio.h>
main()
{
    int phy,chem,maths,total_mpc,total_mp;
    printf("Input the marks obtained in Physics: ");
    scanf("%d",&phy),
    printf("Input the marks obtained in Chemistry: ");
    scanf("%d",&chem);
    printf("Input the marks obtained in Mathematics: ");
    scanf("%d",&maths);
    total_mpc = maths+phy+chem;
    printf("\nTotal marks of Maths, Physics and Chemistry: %d",total_mpc);
    total_mp=maths+phy;
    printf("\nTotal marks of Maths and Physics: %d",total_mp);

    if((maths>=65&&phy>=65&&chem>=50&&total_mpc>=190)|| (total_mp>=14
0))
    {
        printf("\nThe candidate is eligible for admission.");
    }
    else
    {
        printf("\nThe candidate is not eligibe for admission.");
    }
}

```

Output - Input the marks obtained in Physics: 65  
 Input the marks obtained in Chemistry: 51  
 Input the marks obtained in Mathematics: 72

Total marks of Maths, Physics and Chemistry: 188  
 Total marks of Maths and Physics: 137  
 The candidate is not eligibe for admission.

```

11. #include<stdio.h>
#include<math.h>
int main(){
    float a,b,c;
    float discriminant;
    float root1,root2,imaginary;
    printf("Enter values of a,b,c of quadratic equation(ax^2+bx+c):\n");
    scanf("%f%f%f",&a,&b,&c);
    discriminant = (b*b)-(4*a*c);
    if(discriminant>0)
    {
        root1 = (-b+sqrt(discriminant))/(2*a);

```

```

        root2 = (-b-sqrt(discriminant))/(2*a);
        printf("The roots are real and distinct: %.2f and %.2f",root1,root2);
    }
    else if (discriminant==0)
    {
        root1 = root2 = -b/(2*a);
        printf("The roots are real and equal: %.2f and %.2f",root1,root2);
    }
    else if (discriminant<0)
    {
        root1 = root2 = -b/(2*a);
        imaginary = sqrt(-discriminant)/(2*a);
        printf("The roots do not exist or the roots are imaginary: %.2f + i%.2f
and %.2f - i%.2f",root1,imaginary,root2,imaginary);
    }
    return 0;
}

```

Output - Enter values of a,b,c of quadratic equation( $ax^2+bx+c$ ):

1 5 7

The roots do not exist or the roots are imaginary: -2.50 + i0.87 and -2.50 - i0.87

12. #include<stdio.h>

```

main(){
    int roll_no,phy,chem,ca,total;
    char name[20],division[20];
    float percentage;
    printf("Input the Roll Number of the student: ");
    scanf("%d",&roll_no);
    printf("Input the Name of the student: ");
    scanf("%s",&name);
    printf("Input the marks of Physics, Chemistry and Computer Application: ");
    scanf("%d%d%d",&phy,&chem,&ca);
    printf("\nRoll No: %d",roll_no);
    printf("\nName of the student: %s",name);
    printf("\nMarks in Physics: %d",phy);
    printf("\nMarks in Chemistry: %d",chem);
    printf("\nMarks in Computer application: %d",ca);
    total = phy+chem+ca;
    percentage = total/3.0;
    printf("\nTotal marks = %d",total);
    printf("\nPercentage = %.2f",percentage);
    if (percentage>=60)
        printf("\nDivision = First");
    else if (percentage<60 && percentage>=48)
        printf("\nDivision = Second");
    else if (percentage<48 && percentage>=36)
        printf("\nDivision = Third");
}

```

```
else
    printf("\nDivision = Fail");

}
Output - Input the Roll Number of the student: 234
Input the Name of the student: Amit
Input the marks of Physics, Chemistry and Computer Application: 80
65
90
```

Roll No: 234  
Name of the student: Amit  
Marks in Physics: 80  
Marks in Chemistry: 65  
Marks in Computer application: 90  
Total marks = 235  
Percentage = 78.33  
Division = First

```
13. #include<stdio.h>
main(){
    int temp;
    printf("Enter temperature: ");
    scanf("%d",&temp);
    if(temp<0)
    {
        printf("Freezing weather");
    }
    else if(temp>0&&temp<10)
    {
        printf("Very cold weather");
    }
    else if(temp>=10&&temp<20)
    {
        printf("Cold weather");
    }
    else if(temp>=20&&temp<30)
    {
        printf("Normal temperature");
    }
    else if(temp>=30&&temp<40)
    {
        printf("It's hot");
    }
    else if(temp>=40)
    {
        printf("It's very hot");
    }
}
```

```

    }
    else
    {
        printf("Invalid input");
    }
}

```

}  
 Output - Enter temperature: 46  
 It's very hot

```

14. #include<stdio.h>
main()
{
    int s1,s2,s3;
    printf("Enter three sides of triangle: ");
    scanf("%d%d%d",&s1,&s2,&s3);
    if(s1==s2 && s2==s3)
    {
        printf("This is an equilateral triangle");
    }
    else if(s1==s2 || s2==s3 || s1==s3)
    {
        printf("This is an isosceles triangle");
    }
    else
    {
        printf("This is scalene triangle");
    }
}

```

Output - Enter three sides of triangle: 60 50 50  
 This is an isosceles triangle

```

15. #include<stdio.h>
int main(){
    int angle1,angle2,angle3,sum;
    printf("Enter three angles of triangle:\n");
    scanf("%d%d%d",&angle1,&angle2,&angle3);
    sum = angle1+angle2+angle3;
    if(sum==180 && angle1>0 && angle2>0 && angle3>0)
    {
        printf("Triangle is valid");
    }
    else
    {

```



```
        printf("Triangle is not valid");
    }
    return 0;
}
```

Output - Enter three angles of triangle:  
40 55 65  
Triangle is not valid

```
16. #include <stdio.h>
main()
{
    char ch;
    printf("Enter any character: ");
    scanf("%c", &ch);
    if((ch >= 'a' && ch <= 'z') || (ch >= 'A' && ch <= 'Z'))
    {
        printf("%c is alphabet.", ch);
    }
    else if(ch >= '0' && ch <= '9')
    {
        printf("%c is digit.", ch);
    }
    else
    {
        printf("%c is special character.", ch);
    }

    return 0;
}
```

Output - Enter any character: @  
@ is special character.

```
17. #include <stdio.h>
int main()
{
    char ch;
    printf("Enter any character: ");
    scanf("%c", &ch);
    if(ch=='a' || ch=='e' || ch=='i' || ch=='o' || ch=='u' ||
        ch=='A' || ch=='E' || ch=='I' || ch=='O' || ch=='U')
    {
        printf("%c is Vowel.", ch);

    else
    {
        printf("%c is a consonant.", ch);
    }
}
```

Output - Enter any character: S

S is a consonant.

```
    return 0;
}
```

```
18. #include <stdio.h>
```

```
main()
```

```
{
```

```
    int custid, conu;
```

```
    float chg, surchg = 0, gramt, netamt;
```

```
    char connm[25];
```

```
    printf("enter Customer ID :");
```

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

```
    printf("enter the name of the customer :");
```

```
    scanf("%s", connm);
```

```
    printf("enter the unit consumed by the customer : ");
```

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

```
    if (conu < 200)
```

```
        chg = 1.20;
```

```
    else if (conu >= 200 && conu < 400)
```

```
        chg = 1.50;
```

```
    else if (conu >= 400 && conu < 600)
```

```
        chg = 1.80;
```

```
    else
```

```
        chg = 2.00;
```

```
    gramt = conu * chg;
```

```
    if (gramt > 300)
```

```
        surchg = gramt * 15 / 100.0;
```

```
    netamt = gramt + surchg;
```

```
    if (netamt < 100)
```

```
        netamt = 100;
```

```
    printf("\nElectricity Bill\n");
```

```
    printf("Customer IDNO           :%d\n", custid);
```

```
    printf("Customer Name           :%s\n", connm);
```

```
    printf("unit Consumed           :%d\n", conu);
```

```
    printf("Amount Charges @Rs. %4.2f per unit :%8.2f\n", chg, gramt);
```

```
    printf("Surcharge Amount           :%8.2f\n", surchg);
```

```
    printf("Net Amount Paid By the Customer   :%8.2f\n", netamt);
```

```
}
```

Output - enter Customer ID :1001  
enter the name of the customer :James  
enter the unit consumed by the customer : 800

#### Electricity Bill

Customer IDNO :1001  
Customer Name :James  
unit Consumed :800  
Amount Charges @Rs. 2.00 per unit : 1600.00  
Surcharge Amount : 240.00  
Net Amount Paid By the Customer : 1840.00

19. #include <stdio.h>

main()

{

int monno;

char monnm[15];

printf("Input Month No : ");

scanf("%d",&monno);

switch(monno)

{

case 1:

case 3:

case 5:

case 7:

case 8:

case 10:

case 12:

printf("Month have 31 days. \n");

break;

case 2:

printf("The 2nd month is a February and have 28 days. \n");

printf("in leap year The February month Have 29 days.\n");

case 4:

case 6:

case 9:

case 11:

printf("Month have 30 days. \n");

break;

default:

printf("Invalid Month number.\nPlease try again ....\n");

break;

}

}

Output - Input Month No : 8

Month have 31 days.

```
20.#include <stdio.h>
```

```
main ()
```

```
{
    int choice,r,l,w,b,h;
    float area;
    printf("Input area of circle\n");
    printf("Input area of rectangle\n");
    printf("Input area of triangle\n");
    printf("Input your choice : ");
    scanf("%d",&choice);
    switch(choice)
    {
        case 1:
            printf("Input radius of the circle : ");
            scanf("%d",&r);
            area=3.14*r*r;
            break;
        case 2:
            printf("Input length and width of the rectangle : ");
            scanf("%d%d",&l,&w);
            area=l*w;
            break;
        case 3:
            printf("Input the base and height of the triangle :");
            scanf("%d%d",&b,&h);
            area=.5*b*h;
            break;
    }

    printf("The area is : %f\n",area);
}
```

Output - Input area of circle

Input area of rectangle

Input area of triangle

Input your choice : 2

Input length and width of the rectangle : 5

8

The area is : 40.000000