# Assignment -3

Decision control statements

## 1.write a program to check whether a given number is positive or non-positive.

#include<stdio.h>

int main(){

    int n;

    printf("enter a number:");

    scanf("%d",&n);

    if(n>0){

        printf("positive");

    }

    else{

        printf("Non-positive");

    }

    return 0;

}

2.write a program to check whether a given number is divisible by 5 or not.

#include<stdio.h>

int main(){

    int n;

    printf("enter a number:");

    scanf("%d",&n);

    if(n/5){

        printf("divisible");

    }

    else{

        printf("Non-divisible");

    }

    return 0;

}

3.write a program to check a given number is an odd number or even number .

#include<stdio.h>

int main(){

    int n;

    printf("enter a number:");

    scanf("%d",&n);

    if(n%2==0){

        printf("even");

    }

    else{

        printf("odd");

    }

    return 0;}

4.write a program to check a given number is an odd number or even number without using % operator .

#include<stdio.h>

int main(){

    int n;

    printf("enter a number:");

    scanf("%d",&n);

    if(n&1){

        printf("even");

    }

    else{

        printf("odd");

    }

    return 0;

}

5.write a program to check whether roots of a given number is a three digit number or not.

#include<stdio.h>

int main(){

    int n;

    printf("enter a number:");

    scanf("%d",&n);

    if(n/100){

        printf("three digit number");

    }

    else{

        printf("not three digit");

    }

    return 0;

}

6.write a program to print greater between two numbers. Print one number of both are same.

#include<stdio.h>

int main(){

    int a,b;

    printf("enter a number:");

    scanf("%d",&a);

    printf("enter a second number:");

    scanf("%d",&b);

 if(a>b){

     printf("%d is greater than %d",a,b);

 }

 else{

     printf("%d is not greater then %d",a,b);

 }

 if(a==b){

     printf("both are same");

 }

  return 0;

}

7.write a program to check whether roots of given quadratic equation are real & distinct, real & equal or imaginary roots

8.write a program to check whether a given year is a leap year or not.

#include<stdio.h>

int main(){

    int n;

    printf("enter a year:");

    scanf("%d",&n);

    if(n%4==0){

        printf("given year is a leap year");

    }

    else{

        printf("given year is not a leap year");

    }

  return 0;

}

9.write a program to find the greatest among three given numbers. Print number once if greatest number appears two or three times.

10. Write a program which takes the cost price and selling price of a product from the user. Now calculate and print profit or loss percentage.

#include<stdio.h>

int main(){

        int a,b;

        float n,m;

        printf("Enter a cost price:");

        scanf("%d",&a);

        printf("Enter a selling price:");

        scanf("%d",&b);

        if(a<b){

            n=b-a;

            printf("profit %f",n);

        }

        else{

        m=a-b;

        printf("loss %f",m);

        }

    return 0;

}

11. Write a program to take marks of 5 subjects from the user. Assume marks are given out of 100 and passing marks is 33. Now display whether the candidate passed the examination or failed.

#include<stdio.h>

int main(){

        int a,b,c,d,e;

        float n,m;

        printf("Enter a math marks:");

        scanf("%d",&a);

        printf("Enter a hindi marks:");

        scanf("%d",&b);

        printf("Enter a science marks:");

        scanf("%d",&c);

        printf("Enter a so.science marks:");

        scanf("%d",&d);

        printf("Enter a english marks:");

        scanf("%d",&e);

        n=((a+b+c+d+e)\*100)/500;

       if(n>=33){

          printf("you are passed %f",n);

       }

       else

       printf("you are failed %f",n);

    return 0;

}

12.write a program to check whether a given alphabet is uppercase or lowercase

#include<stdio.h>

int main(){

        char c;

        printf("enter a alphabate:");

        scanf("%c",&c);

       if(c>='A'&& c<='Z'){

          printf("uppercase");

       }

       else

       printf("lowercase");

    return 0;

}

13.write a program to check whether a given number is divisible by 3 and divisible by 2

#include<stdio.h>

int main(){

        int a;

        printf("enter a number:");

        scanf("%d",&a);

       if(a%3==0 && a%2==0){

          printf("divisible by 3 and 2");

       }

       else

       printf("not divisible");

    return 0;

}

14.write a program to check whether a given number is divisible by 7 or divisible by 3.

#include<stdio.h>

int main(){

        int a;

        printf("enter a number:");

        scanf("%d",&a);

       if(a%7==0){

          printf("divisible by 7");

       }

       else if(a%3==0){

       printf("divisible by 3");

       }

    return 0;

}

15. write a program to check whether a given number is positive ,negative or zero.

#include<stdio.h>

int main(){

        int a;

        printf("enter a number:");

        scanf("%d",&a);

       if(a>1){

       printf("Positive");

       }

       else if(a==0){

       printf("Zero");

       }

       else

       printf("Negative");

    return 0;

}

16. Write a program to check whether a given character is an alphabet (uppercase), an alphabet (lower case), a digit or a special character.

#include<stdio.h>

int main(){

        char a;

        printf("enter a number or alphabhet:");

        scanf("%c",&a);

       if(a>=65 && a<=90)

       printf("uppercase");

       else

       if(a>=97 && a<=122)

       printf("lowercase");

       else

       if(a>=49 && a<=57)

       printf("digit");

       else

       printf("special character");

    return 0;

}

17. Write a program which takes the length of the sides of a triangle as an input. Display whether the triangle is valid or not

#include<stdio.h>

int main(){

        int a,b,c;

        printf("enter lenght of the side of a triangle:");

        scanf("%d%d%d",&a,&b,&c);

        if(a+b>=c)

        {

            printf("triangle valid");

        }

        else

        printf("not valid");

    return 0;

}

18. Write a program which takes the month number as an input and display number of days in that month

#include<stdio.h>

int main(){

        int a;

        printf("enter a month number:");

        scanf("%d",&a);

        if(a==1 || a==3|| a==5 || a==7 || a==10 ||a==12)

        {

            printf("31 days");

        }

        else if(a==4 || a==6 || a==9 || a==11)

        printf("30 days");

        else

        printf("28/29 days");

    return 0;

}