**ASSIGNMENT-3**

**Decision Control Statements**

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

#include<stdio.h>

#include<conio.h>

main()

{

    int b;

    printf("Enter the no:");

    scanf("%d",&b);

    if(b<1)

    printf("Non positive");

    else

    printf("positive");

    getch();

}

1. 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==0)

    printf("%d is divisable by 5", n);

    else

    printf("%d is not divisable by 5",n);

    return 0;

}

1. Write a program to check whether a given number is an even number or an odd number.

#include<stdio.h>

#include<conio.h>

main()

{

    int n;

    printf("Enter a value:");

    scanf("%d",&n);

    if(n%2==0)

    printf("even no");

    else

    printf("odd no");

    getch();

}

1. Write a program to check whether a given number is an even number or an odd number without using % operator.

#include<stdio.h>

int main()

{

    int l,a;

    printf("Enter a no:");

    scanf("%d",&a);

    l=a/10;

    l=a-l\*10;

    if(l==0||l==2||l==4||l==6||l==8)

    printf("even no");

    else

    printf("odd no");

    return 0;

}

1. Write a program to check whether a given number is a three-digit number or not.

#include "stdio.h"

int main()

{

    int a;

    printf("enter the number");

    scanf("%d",&a);

    if(a>99&&1000>a)

    printf("%d is three digit number",a);

    else

    printf("%d is not three digit number",a);

    return 0;

}

1. Write a program to print greater between two numbers. Print one number of both are the same.

#include "stdio.h"

int main()

{

    int a,b;

    printf("Enter two number:");

    scanf("%d%d",&a,&b);

    if(a>b)

    printf("%d is greater number",a);

    else

    printf("%d is greater number",b);

    return 0;

}

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

#include"stdio.h"

int main()

{

    int a,b,c,d;

    printf("enter the cofficent of x^2,x & constant of quadrite equation:");

    scanf("%d%d%d",&a,&b,&c);

    d=b\*b-4\*a\*c;

    if(d>0)

    printf("roots are real and distinct");

    else if (d<0)

    printf("imaginary roots");

    else

    printf("roots are real & equal");

    return 0;

}

1. Write a program to check whether a given year is a leap year or not.

#include<stdio.h>

#include<conio.h>

int main()

{

    int y;

    printf("Enter the year:");

    scanf("%d",&y);

    if(y%100==0)

    {

        if(y%400==0)

        printf("Leap Year");

        else

        printf("Not a Leap Year");

    }

    else

    if(y%4==0)

    printf("Leap Year");

    else

    printf("Not a Leap Year");

    getch();

}

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

#include "stdio.h"

int main()

{

    int a,b,c;

    printf("Enter three number:");

    scanf("%d%d%d",&a,&b,&c);

    if(a>b)

    {

        if(a>c)

            printf("%d is greater number",a);

        else

            printf("%d is greater number",c);

    }

    else if(b>c)

    printf("%d is greater number",b);

    else

    printf("%d is greater number",c);

    return 0;

}

1. 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()

{

    float cp,sp,pl;

    printf("Enter the cost price & selling price of product:");

    scanf("%f%f",&cp,&sp);

    pl=sp-cp;

    if(pl<0)

    printf("%f%% loss",-1\*pl/cp\*100);

    else

    printf("%f%% profit",pl/cp\*100);

    return 0;

}

1. 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 m1,m2,m3,m4,m5,p;

    printf("Enter marks of 5 subject:");

    scanf("%d%d%d%d%d",&m1,&m2,&m3,&m4,&m5);

    if(m1<=100&&m2<=100&&m3<=100&&m4<=100&&m5<=100&&m1>-1&&m2>-1&&m3>-1&&m4>-1&&m5>-1)

    {

        if(m1>33&&m2>33&&m3>33&&m4>33&&m5>33)

        {

            printf("pass");

            p=(m1+m2+m3+m4+m5)/5.0;

            if(p>=60)

            printf("1st division");

            else

            {

                if(p>=50)

            printf("2st division");

            else

            {

                if(p>=40)

            printf("3st division");

            }

            }

        }

        else

        printf("fail");

    }

            else

            printf("invalidmarks");

}

1. Write a program to check whether a given alphabet is in uppercase or lowercase.

#include<stdio.h>

int main()

{

    char a;

    printf("Enter an Alphabet:");

    scanf("%c",&a);

    if(a>64&&a<91)

    printf("uppercase");

    else

    printf("lowercase");

    return 0;

}

1. Write 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 value:");

    scanf("%d",&a);

    if(a%2==0&&a%3==0)

    printf("%d is divisible by 2 & 3",a);

    else

    printf("%d is not divisible by 2 & 3",a);

    return 0;

}

1. 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 value:");

    scanf("%d",&a);

    if(a%7==0&&a%3==0)

    printf("%d is divisible by both 7 & 3",a);

    else if(a%7==0)

    printf("%d is divisible by 7",a);

    else if(a%3==0)

    printf("%d is divisible by 3",a);

    else

    printf("%d is not divisible by 7 or 3",a);

    return 0;

}

1. Write a program to check whether a given number is positive, negative or zero.

#include<stdio.h>

#include<conio.h>

main()

{

    int b;

    printf("Enter the no:");

    scanf("%d",&b);

    if(b>0)

    printf("positive");

    else if(b<0)

    printf("negative");

    else

    printf("zero")

    getch();

}

1. Write a program to check whether a given character is an alphabet (uppercase), an alphabet (lower case), a digit or a special character.
2. #include<stdio.h>
3. int main()
4. {
5. char a;
6. printf("Enter an character:");
7. scanf("%c",&a);
8. if(a>64&&a<91)
9. printf("uppercase alphabet");
10. else if(a>=97&&a<=122)
11. printf("lowercase alphabet");
12. else if(a>=32&&a<=47||a>=58&&a<=64||a>=91&&a<=96||a>=123&&a<=126)
13. printf("special symbol");
14. else if(a>=48&&a<=57)
15. printf("digit");
16. else
17. printf("Invalid character enter");
18. return 0;
19. }

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()

{

    float a,b,c;

    printf("Enter the length of sides of triangle:");

    scanf("%f%f%f",&a,&b,&c);

    if(a<b)

    a=a+b-(b=a);

    if(a<c)

    a=a+c-(c=a);

    if(a<b+c)

    printf("Triangle can generate");

    else

    printf("Triangle can not generate");

    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 the Month no:");

    scanf("%d",&a);

    if(a==1||a==3||a==5||a==7||a==8||a==10||a==12)

    printf("31 days in this month");

    else if(a==4||a==6||a==9||a==11)

    printf("30 days in this month");

    else if(a==2)

    printf("28/29 days in this month");

    else

    printf("Invalid month no");

    return 0;

}