**ASSIGNMENT-9**

**Switch case problems**

1. 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 x;

    printf("Enter the no of month:");

    scanf("%d",&x);

    switch(x)

    {

        case 1:

        case 3:

        case 5:

        case 7 ... 8:

        case 10:

        case 12:

        printf("31 days");

        break;

        case 4:

        case 6:

        case 9:

        case 11:

        printf("30 days");

        break;

        case 2:

        printf("28/29 days");

        break;

        default:

        printf("invalid month no");

    }

}

1. Write a menu driven program with the following options:

a. Addition

b. Subtraction

c. Multiplication

d. Division

e. Exit

#include<stdio.h>

#include<stdlib.h>

int main()

{

    int n,a,b;

    while(1)

    {

    printf("\n1.Addition\n2.Subtraction\n3.Multiplication\n4.Division\n5.Exit\n\n\tEnter your choice");

    scanf("%d",&n);

    switch(n)

    {

        case 1:

        printf("Enter two values");

        scanf("%d%d",&a,&b);

        printf("sum:%d",a+b);

        break;

        case 2:

        printf("Enter two values");

        scanf("%d%d",&a,&b);

        printf("subtraction:%d",a-b);

        break;

        case 3:

        printf("Enter two values");

        scanf("%d%d",&a,&b);

        printf("%d\*%d=%d",a,b,a\*b);

        break;

        case 4:

        printf("Enter two values");

        scanf("%d%d",&a,&b);

        printf("%d/%d=%d",a,b,a/b);

        break;

        case 5:

        exit(0);

        default:

        printf("invalid choice");

    }

    }

    return 0;

}

1. Write a program which takes the day number of a week and displays a unique greeting message for the day.

#include<stdio.h>

#include<stdlib.h>

int main()

{

    int n;

    printf("Enter day no");

    scanf("%d",&n);

    switch(n)

    {

        case 7:

        printf("wishing you a peaceful and relaxing saturday");

        break;

        case 5:

        printf("have a blessed thursday for you");

        break;

        case 3:

        printf("wishing you a happy tuesday");

        break;

        case 1:

        printf("forgot about the hectic week & start a new .happy sunday to you!");

        break;

        case 2:

        printf("happy monday\nhappy working");

        break;

        case 4:

        printf("i wish you a happy and comfy wednesday! continue to smile");

        break;

        case 6:

        printf("i wish you all the joy you desire on the day.have a great friday");

        default:

        printf("invalid no");

    }

    return 0;

}

1. Write a menu driven program with the following options:

a. Check whether a given set of three numbers are lengths of an isosceles triangle or not

b. Check whether a given set of three numbers are lengths of sides of

a right angled triangle or not

c. Check whether a given set of three numbers are equilateral triangle

or not

d. Exit

#include<stdio.h>

#include<stdlib.h>

int main()

{

    int a,b,c,n;

    while(1)

    {

    printf("\n1.check whether a given set of three nos are lengths of an isoscelec triangle or not");

    printf("\n2.check whether a given set of three nos are lengths of sides of a right andled triangle or not");

    printf("\n3.check whether a given set of three nos are equilateral triangle or not\n4.Exit");

    printf("\nEnter your choice:");

    scanf("%d",&n);

    switch(n)

    {

        case 2:

        printf("\nEnter three sides:");

        scanf("%d%d%d",&a,&b,&c);

        switch(a<b)

        {

            case 1:

            switch(b>c)

            {

                case 1:

                b=a+b-(a=b);

                break;

                case 0:

                c=a+c-(a=c);

            }

            case 0:

            switch(c>a)

            {

                case 1:

                c=a+c-(a=c);

                case 0:

                switch(a\*a==b\*b+c\*c)

                {

                    case 1:

                    printf("\nthese are side of right andled triangle",a,b,c);

                    break;

                    case 0:

                    printf("\nthese are not side of right andled triangle",a,b,c);

                }

            }

        }

        break;

        case 1:

        printf("\nEnter three sides:");

        scanf("%d%d%d",&a,&b,&c);

        switch(a==b)

        {

            case 1:

            switch(a==c)

            {

                case 1:

                printf("these are not side of isosceles triangle");

                break;

                case 0:

                printf("these are the side of isosceles triangle");

            }

            break;

            case 0:

            switch(a==c)

            {

                case 1:

                    printf("these are side of isosceles triangle");

                    break;

                case 0:

                    printf("these are not side of isosceles triangle");

            }

        }

        break;

        case 3:

        printf("\nEnter three sides:");

        scanf("%d%d%d",&a,&b,&c);

        switch(a==b)

        {

            case 1:

            switch(a==c)

            {

                case 1:

                printf("sides of equilateral");

                break;

                case 0:

                printf("not sides of equilateral");

            }

            break;

            case 0:

            printf("not sides of equilateral");

        }

        break;

        case 4:

        exit(0);

        default:

        printf("invalid choice");

    }

    }

}

1. Convert the following if-else-if construct into switch case:

if(var == 1)

System.out.println("good");

else if(var == 2)

System.out.println("better");

else if(var == 3)

System.out.println("best");

else

System.out.println("invalid");

#include<stdio.h>

#include<conio.h>

int main()

{

    int x;

    printf("Enter a digit from 1 to 3:");

    scanf("%d",&x);

    switch(x)

    {

        case 1:

        printf("good");

        break;

        case 2:

        printf("better");

        break;

        case 3:

        printf("best");

        break;

        default:

        printf("invalid");

    }

    getch();

}

1. Program to check whether a year is a leap year or not. Using switch statement

#include<stdio.h>

#include<conio.h>

int main()

{

    int y;

    printf("Enter year:");

    scanf("%d",&y);

    switch(y%100==0)

    {

        case 1:

        switch(y%400==0)

        {

            case 1:

            printf("leap year");

            break;

            case 0:

            printf("not leap year");

        }

        break;

        case 0:

        switch(y%4==0)

        {

            case 1:

            printf("leap year");

            break;

            case 0:

            printf("not leap year");

        }

    }

    getch();

}

1. Program to take the value from the user as input electricity unit charges and calculate total electricity bill according to the given condition. Using the switch statement.

For the first 50 units Rs. 0.50/unit

For the next 100 units Rs. 0.75/unit

For the next 100 units Rs. 1.20/unit

For units above 250 Rs. 1.50/unit

An additional surcharge of 20% is added to the bill.

#include<stdio.h>

#include<conio.h>

int main()

{

    int unit;

    printf("Enter your electricity unit:");

    scanf("%d",&unit);

    switch(unit<=50)

    {

        case 1:

        printf("Bill:%f",unit\*0.50);

        break;

        case 0:

        switch(unit<=150)

        {

            case 1:

            printf("Bill:%f",50\*0.50+(unit-50)\*0.75);

            break;

            case 0:

            switch(unit<=250)

            {

                case 1:

                printf("Bill:%f",50\*0.50+(unit-150)\*1.20+100\*0.75);

                break;

                case 0:

                printf("Bill:%f",50\*0.50+(unit-250)\*1.50+100\*0.75+100\*1.20);

            }

        }

    }

    getch();

}

1. Program to convert a positive number into a negative number and negative number into a positive number using a switch statement.

#include<stdio.h>

#include<conio.h>

int main()

{

    int y;

    printf("Enter a no:");

    scanf("%d",&y);

    switch(y<0)

    {

        case 1:

        printf("%d",y\*-1);

        break;

        case 0:

        printf("%d",y\*-1);

    }

}

1. Program to Convert even number into its upper nearest odd number Switch Statement.

#include<stdio.h>

#include<conio.h>

int main()

{

    int y;

    printf("Enter a even no:");

    scanf("%d",&y);

    switch(y%2)

    {

        case 1:

        printf("not a even no");

        break;

        case 0:

        printf("%d",y+1);

    }

    getch();

}

1. C program to find all roots of a quadratic equation using switch case

#include<stdio.h>

#include<math.h>

int main()

{

    int a,b,c,d,l;

    float x1,x2;

    printf("Enter the cofficient of quadratic equation:");

    scanf("%d%d%d",&a,&b,&c);

    d=b\*b-4\*a\*c;

    switch(d==0)

    {

        case 1:

        x1=-b/(2\*a);

        printf("%f root of equation(equal roots)",x1);

        break;

        case 0:

        x1=(-b+sqrt(d))/(2\*a);

        x2=(-b-sqrt(d))/(2\*a);

        printf("%f and %f roots of equation",x1,x2);

    }

    return 0;

}