ASSIGNMENT-09

**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 Month Number:");

    scanf ("%d", &x);

    switch (x)

    {

    case 1:

        printf ("Number of Days in this month is 31");

         break;

    case 2:

        printf ("Number of Days in this month is 28 or 29");

         break;

    case 3:

        printf ("Number of Days in this month is 31");

         break;

    case 4:

        printf ("Number of Days in this month is 30");

         break;

    case 5:

        printf ("Number of Days in this month is 31");

         break;

    case 6:

        printf ("Number of Days in this month is 30");

         break;

    case 7:

        printf ("Number of Days in this month is 31");

         break;

    case 8:

        printf ("Number of Days in this month is 31");

         break;

    case 9:

        printf ("Number of Days in this month is 30");

        break;

    case 10:

        printf ("Number of Days in this month is 31");

         break;

    case 11:

        printf ("Number of Days in this month is 30");

         break;

    case 12:

        printf ("Number of Days in this month is 31");

         break;

    default:

        printf ("Please enter correct MONTH NUMBER");

    }

    return 0;

}

**2. Write a menu driven program with the following options:**

**a. Addition**

**b. Subtraction**

**c. Multiplication**

**d. Division**

**e. Exit**

#include<stdio.h>

int main ()

{

    int x, a, b;

    while (1)

    {

         printf ("\n1. Addition");

         printf ("\n2. Subtraction");

         printf ("\n3. Multiplication");

         printf ("\n4. Division");

         printf ("\n5. Exit");

        printf ("\nEnter Your Choice:");

        scanf ("%d", &x);

      switch (x)

      {

      case 1:

        printf ("Enter two numbers:");

        scanf ("%d%d", &a, &b);

        printf ("Addition of %d and %d is %d", a, b, a+b);

        break;

      case 2:

        printf ("Enter two numbers:");

        scanf ("%d%d", &a, &b);

        printf ("Subtraction of %d and %d is %d", a, b, a-b);

        break;

      case 3:

        printf ("Enter two numbers:");

        scanf ("%d%d", &a, &b);

        printf ("Multiplication of %d and %d is %d", a, b, a\*b);

        break;

      case 4:

        printf ("Enter two numbers:");

        scanf ("%d%d", &a, &b);

        printf ("Division of %d and %d is %d", a, b, a/b);

        break;

      case 5:

        break;

      default:

        printf ("Invalid Choice:");

     }

      if(x==5)

         break;

    }//while loop ends here

    return 0;

}

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

#include<stdio.h>

int main ()

{

    int x;

    printf ("Hi! there Please enter Your Day No.:");

    scanf ("%d", &x);

    switch (x)

    {

      case 1:

        printf ("Hello, Let's begin Journey of this week");

        break;

      case 2:

        printf ("Welcome to Day-2 Keep trying...");

        break;

      case 3:

        printf (" Hey, It's Wednesday Any query? Prateek sir is waiting otherwise Keep trying...");

        break;

      case 4:

        printf ("Welcome to Day-4 keep learning! Keep trying...");

        break;

      case 5:

        printf ("Welcome to Day-5 Keep trying...");

        break;

      case 6:

        printf ("Welcome to Day-6 Your class has started Saurabh Sir is Waiting");

        break;

      case 7:

        printf ("Welcome to Day-7 Hey, You've Done it! Get Ready for New Journey ");

        break;

     default:

          printf ("COME ON MAN! KEEP TRYING HARD");

    }

    return 0;

}

**4. 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>

int main ()

{

    int x, a, b, c;

  while (1)

  {

    printf ("\n1. Check given are sides of isosceles triangle or not.");

    printf ("\n2. Check given are sides of a right-angled triangle or not");

    printf ("\n3. Check given are sides of are equilateral triangle or not");

    printf ("\n4. Exit");

    printf ("Select Your Choice");

    scanf ("%d", &x);

    switch(x)

    {

        case 1:

           printf ("Enter sides of triangle:");

           scanf ("%d%d%d", &a, &b, &c);

                     if(a==b||a==c||b==c)

                      printf ("Yes these are the sides of isosceles");

        case 2:

            printf ("Enter sides of triangle:");

            scanf ("%d%d%d", &a, &b, &c);

                  if (a\*a==b\*b+c\*c || b\*b==a\*a+c\*c ||c\*c==a\*a+b\*b)

                        printf ("Right-Angle Triangle");

                  else

                        printf ("Not a Right-Angle Triangle");

        case 3:

           printf ("Enter sides of triangle:");

            scanf ("%d%d%d", &a, &b, &c);

            if (a\*a==b\*b+c\*c || b\*b==a\*a+c\*c || c\*c==a\*a+b\*b)

                  printf ("Right-Angle Triangle");

            else

                  printf (" Not Right-Angle Triangle");

                if(a==b && b==c)

                    printf (" Equilateral triangle");

                else

                printf ("Not Equilateral Triangle");

                break;

        case 4:

           return;

        default:

           printf ("Please enter Correct lengths");

    }

  }

    return 0;

}

**5. 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>

int main ()

{

    int x;

    printf ("Enter a Number:");

    scanf ("%d", &x);

    switch (x)

    {

    case 1:

       printf ("good");

        break;

    case 2:

       printf ("better");

         break;

    case 3:

       printf ("best");

          break;

    default:

      printf("invalid");

        break;

    }

    return 0;

}

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

#include<stdio.h>

int main ()

{

    int year;

    printf ("Enter a Year:");

    scanf ("%d", &year);

    switch(year%100==0)

    {

        case 1:

          switch (year%400==0)

          {

             case 1:

                printf ("Leap Year");

                break;

             case 0:

                 printf ("Not a Leap Year");

          }

          break;

        case 0:

          switch (year%4==0)

          {

               case 1:

                   printf ("Leap Year");

                   break;

              case 0:

                   printf ("Not Leap Year");

          }

    }

    return 0;

}

**7. 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>

int main ()

{

    int x;

    float TotalBill=0, Amount=0;

    printf ("Enter Electricity Unit:");

    scanf ("%d", &x);

    switch (x<=50)

    {

        case 1:

            Amount=x\*0.50;

            break;

        case 0: switch (x<=150)

                     {

                         case 1:

                           Amount=25+(x-50) \*0.75;

                           break;

                         case 0:

                            switch (x<=250)

                            {

                              case 1:

                                  Amount=100+(150-x) \*1.20;

                                  break;

                                 case 0:

                                  Amount= 220+(x-250) \*1.5;

                            } break;

                    } break;

     }

     TotalBill=Amount+(Amount/5);

     printf ("Your Total Amount is Rs. %f", TotalBill);

     return 0;

}

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

#include <stdio.h>

int main ()

{

    int x;

    printf ("Enter a Number:");

    scanf ("%d", &x);

    switch (x>0)

    {

        case 1:

            printf ("Your New Number is %d", -x);

            break;

        case 0:

            printf ("Your New Number is %d", -x);

            break;

    }

    return 0;

}

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

// Program to Convert even number into its upper nearest odd number

// Switch Statement.

#include<stdio.h>

int main ()

{

    int x;

    printf ("Enter a Number:");

    scanf ("%d", &x);

    switch (x%2==0)

    {

    case 1:

        printf ("Your New Number is %d", x+1);

        break;

    case 0:

        printf ("Your New Number is %d", x);

        break;

    default:

        break;

    }

   return 0;

}

**10. 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;

   float r1, r2;

    printf ("Enter Coefficients of Quadratic Equation:");

    scanf ("%d%d%d", &a, &b, &c);

     D= b\*b - 4\*a\*c;

    switch (D>0)

    {

        case 1:

        r1=(-b/2\*a) + sqrt(D)/2\*a;

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

           printf ("%.2f %.2f", r1, r2);

          break;

        case 0:

           switch(D<0)

           {

             case 1:

             r1= -b/2\*a+ sqrt(4\*a\*c-b\*b)/2\*a;

             r1= -b/2\*a-sqrt(4\*a\*c-b\*b)/2\*a;

                printf ("%.2f %.2f", r1, r2);

            break;

            case 0:

               r1 = -b/2\*a;

               r2 = -b/2\*a;

               printf ("%.2f %.2f", r1, r2);

            break;

           }

    }

    return 0;

}