# Assignment -9

**Switch case statements**

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

#include<stdio.h>

int main(){

int n;

printf("Enter a month number");

scanf("%d",&n);

switch(n){

      case 1:

      printf("january 31 days");

      break;

      case 2:

      printf("february 28 days");

      break;

       case 3:

      printf("March 31 days");

      break;

       case 4:

      printf("April 30 days");

      break;

       case 5:

      printf("May 31 days");

      break;

       case 6:

      printf("June 30 days");

      break;

       case 7:

      printf("July 31 days");

      break;

       case 8:

      printf("August 31 days");

      break;

       case 9:

      printf("september 30 days");

      break;

       case 10:

      printf("October 31 days");

      break;

       case 11:

      printf("November 30 days");

      break;

       case 12:

      printf("December 31 days");

      break;

      default:

      break;

}

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(){

char n;

int n1,n2;

while(1)

{

   printf("\na.Addition");

   printf("\nb.Multiplication");

   printf("\nc.Subtraction");

   printf("\nd.Division");

   printf("\ne.Exit");

   printf("\nEnter your choice:");

   scanf("%c",&n);

switch(n){

      case 'a':

      printf("enter two numbers:");

      scanf("%d%d",&n1,&n2);

      printf("sum :%d",n1+n2);

      break;

      case 'b':

      printf("enter two number:");

      scanf("%d%d",&n1,&n2);

      printf("multiplication is:%d",n1\*n2);

      break;

       case 'c':

       printf("enter two number:");

      scanf("%d%d",&n1,&n2);

      printf("diffrence:%d",n1-n2);

      break;

       case 'd':

       printf("enter two number:");

      scanf("%d%d",&n1,&n2);

      printf("division is:%d",n1/n2);

      break;

       case 'e':

       printf("Exit");

      break;

      default:

      break;

}

}

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 n;

   printf("\nEnter a day number:");

   scanf("%d",&n);

switch(n){

      case 1:

      printf("Good day");

      break;

      case 2:

      printf("I wish have a great day");

      break;

       case 3:

       printf("Star your day with positive thinking");

      break;

       case 4:

       printf("I wish you have a great day ahead");

      break;

       case 5:

       printf("Hope your morning is relaxing");

      break;

      case 6:

       printf("beautiful day");

      break;

       case 7:

       printf("I hope your day is going well");

      break;

      default:

      break;

}

return 0;

}

4. write a menu driven program with the following options:

a. check whether a given set a 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(){

    char n;

    int a,b,c;

    printf("a.Check whether a given set of three numbers are lengths of an isosceles triangle or not");

    printf("\nb. Check whether a given set of three numbers are lengths of sides of a right angled triangle or not ");

    printf("\nc. Check whether a given set of three numbers are equilateral triangle or not ");

    printf("\nd. Exit");

    printf("\nEnter your choice:");

    scanf("%c",&n);

    switch(n){

      case 'a':

      printf("Enter three numbers of triangle:");

      scanf("%d%d%d",&a,&b,&c);

      if(a==b || b==c|| a==c)

      printf("Isosceles triangle");

      else

      printf("Not isosceles triangle");

      break;

      case 'b':

      printf("\nEnter three numbers of triangle:");

      scanf("%d%d%d",&a,&b,&c);

      if(a>b>c || b>c>a || c>a>b || a<b<c || b<c<a || c<a<b)

      printf("\nRight angled triangle");

      else

      printf("\nNot right angled triangle");

      break;

      case 'c':

      printf("\nEnter three numbers of triangle:");

      scanf("%d%d%d",&a,&b,&c);

      if(a==b && b==c && c==a)

      printf("\nequilateral triangle");

      else

      printf("\nNot equilateral triangle");

      break;

      case 'd':

      printf("\nexit");

      break;

      default:

      break;

    }

    return 0;

}

5.convert the following if-else-if construct into switch case:

if(var == 1)

printf ("good");

else if(var == 2)

printf ("better");

else if(var == 3)

printf ("best");

else

printf ("invalid");

#include<stdio.h>

int main(){

    int n;

    printf("Enter a number:");

    scanf("%d",&n);

    switch(n){

    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 n,r;

    printf("Enter a year:");

    scanf("%d",&n);

    r=(n%4==0);

    switch(r){

         case 1:

         printf("leap year");

         break;

         case 0:

         printf("Not leap year");

         break;

         default:

         printf("Invalid");

        break;

}

    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.

#include<stdio.h>

int main(){

    int n;

    float a,total,s;

    printf("Enter electricity unit charge:");

    scanf("%d",&n);

    switch(n<=50){

           case 1:

           a=n\*0.50;

           break;

           case 0:

           switch(n<=150){

                    case 1:

                    a=25+(n-50)\*0.75;

                    break;

                    case 0:

                    switch(n<=250){

                          case 1:

                          a=100+(n-150)\*1.20;

                          break;

                          case 0:

                          a=220+(n-250)\*1.50;

                          break;

                    }

                     break;

           }

           break;

    }

    s=a\*0.20;

    total=a+s;

    printf("Your total bill is Rs %f",total);

    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 n;

    printf("1. positive number convert to negetive number");

    printf("\n2. negative number convert to positive number");

    printf("\nEnter a choice :");

    scanf("%d",&n);

    switch(n){

        case 1:

        printf("\nEnter a postive number:");

        scanf("%d",&n);

        n=n\*(-1);

        printf("\nconvert number is %d",n);

        case 2:

        printf("\nEnter a negetive number:");

        scanf("%d",&n);

        n=n\*(-1);

        printf("\nconvert number is %d",n);

    }

    return 0;

}

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

#include<stdio.h>

int main(){

    int n;

    printf("1.Enter a even number to find nearest odd number");

    printf("\n2. exit");

    printf("\nEnter a choice :");

    scanf("%d",&n);

    switch(n){

        case 1:

        printf("\nEnter a even number :");

        scanf("%d",&n);

        n=n-1;

        printf("\n nearest odd number is %d",n);

        break;

        case 2:

        printf("exit");

        break;

    }

    return 0;

}

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

10. #include<stdio.h>

int main(){

    int n,a,b,c;

    float n1,root1,root2,img;

    printf("\nEnter a a,b,c of quadratic equation (ax^2+bx+c):");

    scanf("%d%d%d",&a,&b,&c);

    n1=((b\*b)-(4\*a\*c))\*0.5;

    switch(n1>0){

        case 1:

        root1=(-b+(n1))/(2\*a);

        root2=(-b-(n1))/(2\*a);

        printf("root1=%f",root1);

        printf("root2=%f",root2);

        break;

        case 0:

        switch(n1<0){

            case 1:

            root1=root2=-b/(2\*a);

            img=(-n1)/(2\*a);

            printf("two complex roots exits: %f +%f  and %f - %f",root1,img,root2,img);

            break;

            case 0:

            root1=root2=-b/(2\*a);

            printf("two equal and real roots exists: %f and %f",root1,root2);

            break;

        }

        break;

    }

    return 0;

}