***Assignment-9***

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

Ans-#include<stdio.h>

int main()

{

int m,p;

printf("enter month number");

scanf("%d",&m);

if(m<8){

if(m%2!=0)

p=1;

else if(m==2)

p=2;

else

p=3;

}

if(m>7)

{

if(m%2==0)

p=1;

else

p=3;

}

switch(p)

{

case 1:printf("31 days in that month");

break;

case 2:printf("28 or 29 days in that month");

break;

case 3:printf("30 days in that month");

break;

}

return 0;

}

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

a. Addition

b. Subtraction

c. Multiplication

d. Division

e. Exit

Ans-#include<stdio.h>

#include<stdlib.h>

int main()

{

float a,b;

int ch;

while(1)

{

printf("\n1.Addition");

printf("\n2.Subtraction");

printf("\n3.Multiplication");

printf("\n4.Division");

printf("\n5.Exit");

printf("\n\nEnter your choice");

scanf("%d",&ch);

switch(ch)

{

case 1:printf("enter two numbers");

scanf("%f%f",&a,&b);

printf("Sum of %f and %f is %f",a,b,a+b);

break;

case 3:printf("enter two numbers");

scanf("%f%f",&a,&b);

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

break;

case 2:printf("enter two numbers");

scanf("%f%f",&a,&b);

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

break;

case 4:printf("enter two numbers");

scanf("%f%f",&a,&b);

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

break;

case 5:exit(0);

}

}

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

Ans-#include<stdio.h>

#include<stdlib.h>

int main()

{

float a,b,c;

int ch;

while(1)

{

printf("\n1.Check the triangle is isosceles triangle or not");

printf("\n2.Check the triangle is right angle triangle or not");

printf("\n3.Check the triangle is equilateral triangle or not");

printf("\n4.Exit");

printf("\n\nEnter your choice");

scanf("%d",&ch);

switch(ch)

{

case 1:printf("enter three sides of the triangle");

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

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

printf("The sides are %f , %f , %f is a isoscele triangle",a,b,c);

else

printf("The sides are %f , %f , %f is not a isosceles triangle",a,b,c);

break;

case 2:printf("enter three sides of the triangle");

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

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

printf("The sides are %f , %f , %f is a right angle triangle",a,b,c);

else

printf("The sides are %f , %f , %f is not a right angle triangle",a,b,c);

break;

case 3:printf("enter three sides of the triangle");

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

if(a==b&&b==c)

printf("The sides are %f , %f , %f is a equilateral triangle",a,b,c);

else

printf("The sides are %f , %f , %f is not a equilateral triangle",a,b,c);

break;

case 4:exit(0);

}

}

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");

Ans-#include<stdio.h>

int main()

{

int var;

printf("Enter a number: ");

scanf("%d",&var);

switch(var)

{

case 1:printf("good");

break;

case 2:printf("better");

break;

case 3:printf("best");

break;

default:printf("invalid");

}

return 0;

}

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

Ans-#include<stdio.h>

int main()

{

int year,ch;

printf("Enter a year: ");

scanf("%d",&year);

if(year%100==0)

ch=1;

else

ch=2;

switch(ch)

{

case 1:if(year%400==0)

printf("%d is leap year",year);

else

printf("%d is not leap year",year);

break;

case 2:if(year%4==0)

printf("%d is leap year",year);

else

printf("%d is not leap year",year);

break;

default:printf("invalid");

}

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.

Ans-#include<stdio.h>

int main()

{

int unit,ch;

float bill,a;

printf("Enter a your unit: ");

scanf("%d",&unit);

if(unit<=50)

ch=1;

else if(unit>50&&unit<=100)

ch=2;

else if(unit>100&&unit<=250)

ch=3;

else if(unit>250)

ch=4;

switch(ch)

{

case 1:bill=unit\*(0.50);

bill=bill+bill\*20/100;

printf("%f is your total electricity bill",bill);

break;

case 2:bill=unit\*(0.75);

bill=bill+bill\*20/100;

printf("%f is your total electricity bill",bill);

break;

case 3:bill=unit\*(1.20);

bill=bill+bill\*20/100;

printf("%f is your total electricity bill",bill);

break;

case 4:bill=unit\*(1.50);

bill=bill+bill\*20/100;

printf("%f is your total electricity bill",bill);

break;

default:printf("invalid");

}

return 0;

}

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

Ans-#include<stdio.h>

int main()

{

int a,ch;

printf("enter a number: ");

scanf("%d",&a);

if(a>0)

ch=1;

else if(a<0)

ch=2;

else

printf("you enter %d that is unsigned",a);

switch(ch)

{

case 1:a=-a;

printf("%d",a);

break;

case 2:a=-(a);

printf("%d",a);

break;

}

return 0;

}

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

Switch Statement.

Ans-#include<stdio.h>

int main()

{

int a,ch,i;

printf("enter a number: ");

scanf("%d",&a);

if(a%2==0)

ch=1;

else

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

switch(ch)

{

case 1:for(i=a+1;;i++)

{

if(i&1)

break;

}

printf("%d's upper nearst odd number is %d",a,i);

break;

}

return 0;

}

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

Ans-#include<stdio.h>

int main()

{

float a,b,c,D,x,y;

int ch;

float i=0.000001;

printf("enter values of a,b,c: ");

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

D=b\*b-4\*a\*c;

if(D>0)

ch=1;

else if(D==0)

ch=2;

else

printf("roots are imaginary");

switch(ch)

{

case 1:if(D>0)

{

while(1)

{

if(i\*i>=D)

break;

i=i+0.000001;

}

}

x=(-b+i)/2\*a;

y=(-b-i)/2\*a;

printf("roots are %f and %f",x,y);

break;

case 2:

x=(-b)/2\*a;

printf("roots are equal and root is %f",x);

break;

}

return 0;

}