Assignment - 9 A Job Ready Bootcamp in C++, DSA and IOT

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 day,month,a=30,b=31;

printf("Enter the Number of the month:");

scanf("%d",&month);

if(month==2)

printf("28");

else if(month<8)

{

if(month%2==0)

printf("%d",a);

else

printf("%d",b);

}

else if(month>=8)

{

if(month%2==0)

printf("%d",b);

else

printf("%d",a);

}

printf("\n");

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>

#include<stdlib.h>

int main()

{

int i,o,num1,num2,rslt;

for(i=1;i>0;)

{

printf("Choose your option:\n1.Addition\n2.Substruction\n3.Product\n4.Division\n5.Exit\n");

scanf("%d",&o);

switch(o)

{

case 1 :

{

printf("Enter two numbers you want to add\n");

scanf("%d %d",&num1,&num2);

printf("%d+%d=%d\n",num1,num2,rslt=num1+num2);

break;

}

case 2 :

{

printf("Enter two numbers one number after another to substruct from the former one\n");

scanf("%d %d",&num1,&num2);

printf("%d-%d=%d\n",num1,num2,rslt=num1-num2);

break;

}

case 3 :

{

printf("Enter two numebrs you want to multiply\n");

scanf("%d %d",&num1,&num2);

printf("%dx%d=%d\n",num1,num2,rslt=num1\*num2);

break;

}

case 4 :

{

printf("Enter two numbers one after another to devide the former one\n");

scanf("%d %d",&num1,&num2);

printf("%d/%d=%d\n",num1,num2,rslt=num1/num2);

break;

}

case 5 :

{

printf("Program has finished successfully\n");

printf("\n");

return 5;

exit;

}

default :

printf("Invalid Input\n");

}

}

}

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("Enter the number of the day of week:\n");

scanf("%d",&n);

switch(n)

{

case 1 :

printf("Rise and shine");

break;

case 2 :

printf("Good morning sunshine");

break;

case 3 :

printf("Wake up sweetie");

break;

case 4 :

printf("Morning, good looking darling");

break;

case 5 :

printf("Welcome back from your night journey");

break;

case 6 :

printf("A sweet morning sleepy beauty");

break;

case 7 :

printf("Welcome to a great day my hero");

break;

default :

printf("Are you a idiot! There're only 7days in a week");

break;

}

}

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>

#include<stdlib.h>

#include<math.h>

int main()

{

int a,b,c,i;

char n;

for(i=1;i>0;i++)

{

printf("1:Check for Isosceles triangle \n 2:Check for right angle triangle\n 3:Check for Equilateral Triangle \n 4:Exit \n");

scanf("%c",&n);

switch(n)

{

case 'a' :

printf("Enter 3 numbers to check whether they are sides of a Isosceles Triangle or not \n");

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

if(a+b>c && b+c>a && c+a>b)

printf("They are sides of a Isosceles Triangle \n");

else

printf("They are not sides of a Isosceles Triangle\n");

break;

case 'b' :

printf("Enter 3 numbers to check whether they are sides of a Right Angle Triangle or not \n");

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("They are sides of a Right Angle Triangle \n");

else

printf("They are not sides of a Right Angle Triangle\n");

break;

case 'c' :

printf("Enter 3 numbers to check whether they are sides of a Equilateral Triangle or not \n");

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

if(a==b==c)

printf("They are sides of a Equilateral Triangle\n");

else

printf("They are not sides of a Equilateral Triangle\n");

break;

case 'd' :

printf("THE PROGRAM HAS SUCCESSFULLY ENDED\n");

return 0;

exit;

default :

printf("Error! wrong choice\n");

break;

}

printf("\n");

}

}

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 i,n;

printf("Enter a number: \n");

scanf("%d",&n);

switch(n)

{

case 1:

printf("Good\n");

break;

case 2:

printf("Better\n");

break;

case 3:

printf("Best\n");

break;

default :

printf("Invalid\n");

break;

}

}

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

#include<stdio.h>

int main()

{

int n,remainder;

printf("Enter a Year to check whether it is a leep year or not\n");

scanf("%d",&n);

remainder=(n%4==0 && (n%400==0 || n%100!=0));

switch(remainder)

{

case 1 :

printf("Leap year\n");

break;

case 0 :

printf("Not a leap year\n");

break;

default :

printf("Invalid\n");

break;

}

}

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 f;

float u,c,k;

printf("Enter Electricity unit charges:\n");

scanf("%f",&u);

if(u<50)

{f=1;c=0.50;k=u\*c;}

else if(u>50 && u<150)

{f=2;c=0.75;k=u\*c;}

else if(u>150 && u<250)

{f=3;c=1.20;k=u\*c;}

else

{f=4;c=1.50;k=u\*c;}

switch(f)

{

case 1 :

printf("The electricity bill is Rs. %f\n",k);

printf("The additional surcharge will be Rs.%f\n",k\*0.2);

printf("The grand total is Rs.%f\n",k\*1.2);

break;

case 2 :

printf("The electricity bill is Rs.%f\n",k);

printf("The additional surcharge will be Rs.%f\n",k\*0.2);

printf("The grand total is Rs.%f\n",k\*1.2);

break;

case 3 :

printf("The electricity bill is Rs.%f\n",k);

printf("The additional surcharge will be Rs.%f\n",k\*0.2);

printf("The grand total is Rs.%f\n",k\*1.2);

break;

case 4 :

printf("The electricity bill is Rs.%f\n",k);

printf("The additional surcharge will be Rs.%f\n",k\*0.2);

printf("The grand total is Rs.%f\n",k\*1.2);

break;

}

}

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 a;

printf("Enter a number:\n");

scanf("%d",&a);

switch(a)

{

case 0 :

{

printf("%d",a);

break;

}

default:

{

printf("%d",a=-a);

break;

}

}

printf("\n");

return 0;

}

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

#include<stdio.h>

int main()

{

int a,num;

printf("Enter a number\n");

scanf("%d",&a);

num=(a%2==0);

switch(num)

{

case 1 :

{

printf("%d",a+1);

break;

}

case 0 :

{

printf("%d",a);

}

}

}

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

#include<stdio.h>

int main()

{

int a,b,c,dis;

printf("Enter the co-efficient of a,b,c of ax^2+bx+c=0\n");

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

dis=(b\*b-4\*a\*c);

if(dis>0)

dis=1;

switch(dis)

{

case 0 :

{

printf("Roots are real and equal\n");

break;

}

case 1 :

{

printf("Roots are real and distinct\n");

break;

}

default :

{

printf("Roots are imaginary\n");

break;

}

}

}