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

**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 a;

printf("enter the month number: ");

scanf("%d",&a);

switch (a)

{

case 1:

printf("this month has 31 days");

break;

case 2:

printf("this month has 28 days/29 days if leap year");

break;

case 3:

printf("this month has 31 days");

break;

case 4:

printf("this month has 30 days");

break;

case 5:

printf("this month has 31 days");

break;

case 6:

printf("this month has 30 days");

break;

case 7:

printf("this month has 31 days");

break;

case 8:

printf("this month has 31 days");

break;

case 9:

printf("this month has 30 days");

break;

case 10:

printf("this month has 31 days");

break;

case 11:

printf("this month has 30 days");

break;

case 12:

printf("this month has 31 days");

break;

default:

printf("wrong choice");

break;

}

}

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 s;

printf("a. Addition\n");

printf("b. Subtraction\n");

printf("c. Multiplication\n");

printf("d. division\n");

printf("e. Exit\n");

printf("enter your choice: ");

scanf("%c",&s);

int a,b;

printf("enter two number: ");

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

switch (s)

{

case 'a':

printf("%d + %d = %d",a,b,a+b);

break;

case 'b':

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

break;

case 'c':

printf("%d \* %d = %d",a,b,a\*b);

break;

case 'd':

printf("%d / %d = %f",a,b,(float)a/b);

break;

case 'e':

printf("exit thanks");

break;

default:

printf("wrong choice");

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 week;

printf("enter week day: ");

scanf("%d",&week);

switch (week)

{

case 1:

printf("today is monday\n goto work");

break;

case 2:

printf("today is tuesday\n aaj mangalwar h");

break;

case 3:

printf("today is wednesday");

break;

case 4:

printf("today is thrusday");

break;

case 5:

printf("today is friday");

break;

case 6:

printf("today is saturday.");

break;

case 7:

printf("today is sunday enjoy your day");

break;

default:

printf("wrong choice");

break;

}

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>

#include<stdlib.h>

int main()

{

char test;

int a,b,c;

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

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

printf("\npress c for Check whether a given set of three numbers are equilateral triangle or not");

printf("\npress d for exit: \n");

fflush(stdin);

printf("\nplease enter your choice: ");

scanf("%c",&test);

printf("pleasee enter the side of triangle: ");

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

switch (test)

{

case 'a':

a==b||b==c||c==a?printf("given triangle is isoceles triangle"):printf("not an isoceles triangle");

break;

case 'b':

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

printf("given triangle is right angle triangle");

else

printf("given triangle is not a right angle triangle");

break;

case 'c':

a==b==c?printf("given triangle is equilateral triangle"):printf("given triangle is not equilateral triangle");

break;

case 'd':

printf("exiting");

break;

default:

printf("wrong choice");

break;

}

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 var;

printf("enter value from 1 to 3: ");

scanf("%d",&var);

switch (var)

{

case 1:

printf("good");

break;

case 2:

printf("better");

break;

case 3:

printf("best");

break;

default:

printf("invalid");

break;

}

}

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

statement

#include<stdio.h>

int main()

{

int year,leap=0;

printf("enter year: ");

scanf("%d",&year);

leap=(((year%4==0) && (year%100!=0))||(year%400==0));

switch(leap)

{

case 1:

printf("given yeaar is leap year");

break;

case 0:

printf("given yeaar is not leap year");

break;

default:

printf("wrong input");

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 b;

float bill;

printf("enter the unit of electricity: ");

scanf("%f", &bill);

if (bill <= 50)

{

b = 1;

}

else if (bill > 50 && bill <= 150)

{

b = 2;

}

else if (bill > 150 && bill <= 250)

{

b = 3;

}

else

b = 4;

switch (b)

{

case 1:

printf("your bill of %f unit is %f rs", bill, bill \* 0.5 \* 1.2);

break;

case 2:

printf("your bill of %f unit is %f rs", bill, bill \* 0.75 \* 1.2);

break;

case 3:

printf("your bill of %f unit is %f rs", bill, bill \* 1.20 \* 1.2);

break;

case 4:

printf("your bill of %f unit is %f rs", bill, bill \* 1.50 \* 1.2);

break;

default:

printf("error");

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 any number: ");

scanf("%d",&a);

switch (a/a)

{

case 1:

a=a\*-1;

break;

case -1:

a=-1\*a;

break;

default:

break;

}

printf("\n%d",a);

}

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

Switch Statement.

#include<stdio.h>

int main()

{

int a;

printf("enter any number: ");

scanf("%d",&a);

switch (a%2)

{

case 0:

a=a+1;

break;

default:

break;

}

printf("\n%d",a);

}

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

#include <stdio.h>

#include <math.h>

int main()

{

float a, b, c, descriminant, r1, r2;

printf("enter the quadratic equation in form of \"ax^2+bx+c");

scanf("%fx^2+%fx+%f", &a, &b, &c);

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

switch (descriminant > 0)

{

case 1:

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

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

printf("%d and %d are real distinct root of of given equation", r1, r2);

break;

case 0:

switch (descriminant < 0)

{

case 1:

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

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

printf("roots are %.2f + i%.2f , %.2f - i%.2f ", r1, r2, r1, r2);

break;

case 0:

r1 = r2 = -b / (a \* 2);

printf("%.2f $.2f are two roots", r1, r2);

break;

}

}

}