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.

ANS;-

#include<stdio.h>

int main()

{

int dayNum;

printf("Enter the day number of the week: ");

scanf("%d",&dayNum);

switch(dayNum)

{

case 1:

printf("Today is monday!");

break;

case 2:

printf("Today is Tuesday!");

break;

case 3:

printf("Today is Wednesday!");

break;

case 4:

printf("Today is Thursday!");

break;

case 5:

printf("Today is Friday!");

break;

case 6:

printf("Today is Saturday!");

break;

case 7:

printf("Today is Sunday!");

break;

default:

printf("Invalid week number!");

}

return 0;

}

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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()

{

while (1)

{

int choice;

printf("1 - Additions\n");

printf("2 - Substraction\n");

printf("3 - Multiplication\n");

printf("4 - Division\n");

printf("5 - Exit\n");

printf("Enter your choice: ");

scanf("%d", &choice);

int x, y;

switch (choice)

{

case 1:

printf("Enter two number: ");

scanf("%d%d", &x, &y);

printf("Addition of %d and %d is %d\n", x, y, x + y);

break;

case 2:

printf("Enter two number: ");

scanf("%d%d", &x, &y);

printf("Substraction of %d and %d is %d\n", x, y, x - y);

break;

case 3:

printf("Enter two number: ");

scanf("%d%d", &x, &y);

printf("Multiplication of %d and %d is %d\n", x, y, x \* y);

break;

case 4:

printf("Enter two number: ");

scanf("%d%d", &x, &y);

printf("Division(Quotiont) of %d and %d is %d\n", x, y, x / y);

break;

case 5:

printf("Thanku!\n");

exit(0);

default:

printf("Enter right choice!\nTry agian!\n");

}

}

return 0;

}

3. Write a program which takes the day number of a week and displays a

unique greeting message for the day.

ANS;-

#include<stdio.h>

int main()

{

int dayNum;

printf("Enter the day number of the week: ");

scanf("%d",&dayNum);

switch(dayNum)

{

case 1:

printf("Today is monday!");

break;

case 2:

printf("Today is Tuesday!");

break;

case 3:

printf("Today is Wednesday!");

break;

case 4:

printf("Today is Thursday!");

break;

case 5:

printf("Today is Friday!");

break;

case 6:

printf("Today is Saturday!");

break;

case 7:

printf("Today is Sunday!");

break;

default:

printf("Invalid week number!");

}

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()

{

while (1)

{

int choice;

printf("\n1. Check Triangle is Isosceles or not ");

printf("\n2. Check Triagnle is Right Angle Triangle or not ");

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

printf("\n4. Exit ");

printf("\nEnter your choice: ");

scanf("%d", &choice);

int x, y, z;

switch (choice)

{

case 1:

printf("Enter the sides of length : ");

scanf("%d%d%d", &x, &y, &z);

if (x == y || x == z || y == z)

printf("Isosceles Trinagle!");

else

printf("Not isosceles Trinagle!");

break;

case 2:

printf("Enter the sides of length: ");

scanf("%d%d%d", &x, &y, &z);

if (x \* x + y \* y == z \* z || x \* x + z \* z == y \* y || y \* y + z \* z == x \* x)

printf("Yup!, it is right angle triangle!");

else

printf("it's not a right angle triangle!");

break;

case 3:

printf("Enter the sides of length: ");

scanf("%d%d%d", &x, &y, &z);

if (x == y && x == z)

printf("Equiletral Triangel!");

else

printf("Not, equiletral triangle!");

break;

case 4:

printf("Thanku!");

exit(0);

default:

printf("Invalid choice!");

}

}

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 the value of var: ");

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;

printf("Enter year: ");

scanf("%d", &year);

switch (year % 400)

{

case 0:

printf("Yup!, it is leap year!");

break;

default:

switch (year % 100)

{

case 0:

printf("Not a leap year!");

break;

default:

switch (year % 4)

{

case 0:

printf("Leap year");

break;

default:

printf("Not a 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.

ANS;- #include <stdio.h>

int main()

{

int unit;

printf("Enter the total eletricity consume -");

scanf("%d", &unit);

float totalBill, sucharge;

switch (unit)

{

case 1 ... 50:

totalBill = unit \* 0.50;

break;

case 51 ... 150:

totalBill = 25 + ((unit - 50) \* 0.75);

break;

case 151 ... 250:

totalBill = 100 + ((unit - 150) \* 1.20);

break;

default:

totalBill = 220 + ((unit - 250) \* 1.50);

}

sucharge = totalBill \* 0.20;

printf("Total bill is: %.2f", totalBill + sucharge);

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 num;

printf("Enter a number: ");

scanf("%d",&num);

switch(num<0)

{

case 1:

printf("Convert: Negative to Positive: %d",num\*-1);

break;

default:

printf("Convert: Positive to Negative: %d",num\*-1);

}

return 0;

}

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

Switch Statement.

Ans;- #include<stdio.h>

int main(){

int evenNum;

printf("Enter evenNumber: ");

scanf("%d",&evenNum);

switch(evenNum%2)

{

case 0:

printf("nearest odd number is: %d",evenNum+1);

break;

default:

printf("Not a even number\nTry agian!");

}

return 0;

}

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

ANS;- #include <stdio.h>

#include <math.h>

int main()

{

float a, b, c;

float root1, root2, imaginary;

float discriminant;

printf("Enter values of a, b, c of quadratic equation (aX^2 + bX + c): ");

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

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

switch (discriminant > 0)

{

case 1:

root1 = (-b + sqrt(discriminant)) / (2 \* a);

root2 = (-b - sqrt(discriminant)) / (2 \* a);

printf("Two distinct and real roots exists: %.2f and %.2f",

root1, root2);

break;

case 0:

switch (discriminant < 0)

{

case 1:

root1 = root2 = -b / (2 \* a);

imaginary = sqrt(-discriminant) / (2 \* a);

printf("Two distinct complex roots exists: %.2f + i%.2f and %.2f - i%.2f",

root1, imaginary, root2, imaginary);

break;

case 0:

root1 = root2 = -b / (2 \* a);

printf("Two equal and real roots exists: %.2f and %.2f", root1, root2);

break;

}

}

return 0;

}