

Assignment - 9

- 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 month;

char monthnumber[15];

printf("Input month no: ");

~~scanf~~ scanf("%d", &month);

switch(month)

{

Case 1:

Case 3:

Case 5:

Case 7:

Case 8:

Case 10:

Case 12:

printf("month have 31 days.\n");

break;

Case 2:

printf("The 2nd month is a february and have 28 days.\n");

printf("The leap year is the february month have 29 days.\n");

break;

Case 4:

Case 6:

Case 9:

Case 11:

printf("month have 30 days.\n");

break;

default:

printf("invalid month number.\n Please try again...\n");

break;

}

② write a menu driven program with the following options.

Ⓐ Addition Ⓑ Subtraction Ⓒ Multiplication Ⓓ Division Ⓔ Exit.

```
#include <stdio.h>
```

```
int main()
```

```
{  
    int a, b;
```

```
    char choice;
```

```
    printf("Enter your choice\n");
```

```
    printf("a. addition\n b. Subtraction\n c. Multiplication\n d. Division\n e. exit);
```

```
    scanf("%c", &choice);
```

```
    printf("Enter 2 integer number\n");
```

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

```
    switch(choice)
```

```
{  
    case 'a': printf("%d + %d = %d\n", a, b, (a+b));
```

```
        break;
```

```
    case 'b': printf("%d - %d = %d\n", a, b, (a-b));
```

```
        break;
```

```
    case 'c': printf("%d * %d = %d\n", a, b, (a*b));
```

```
        break;
```

```
    case 'd': if (b != 0)
```

```
        printf("%d / %d = %d\n", a, b, (a/b));
```

```
    else
```

```
        printf("Number Can't be divided by 0\n");
```

```
        break;
```

```
    default: printf("you entered wrong choice\n");
```

```
        (exit)
```

```
        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 day;
```

```
    printf("Enter day number:>> \n");
```

```
    scanf("%d", &day);
```

```
    switch (day)
```

```
{
```

```
        case 1:
```

```
        {
```

```
            printf("Monday");
```

```
            break;
```

```
        }
```

```
        case 2:
```

```
        {
```

```
            printf("Tuesday");
```

```
            break;
```

```
        }
```

```
        case 3:
```

```
        {
```

```
            printf("Wednesday");
```

```
            break;
```

```
        }
```

```
        case 4:
```

```
        {
```

```
            printf("Thursday");
```

```
            break;
```

```
        }
```

```
        case 5:
```

```
        {
```

```
            printf("Friday");
```

```
            break;
```

```
        }
```

```
        case 6:
```

```
        {
```

```
            printf("Saturday");
```

```
            break;
```

```
        }
```

```
        case 7:
```

```
        {
```

```
            printf("Sunday");
```

```
            break;
```

```
        }
```

```
        default:
```

```
        {
```

```
            printf("Invalid day number");
```

```
        }
```

```
        printf("\n Have a good day");
```

```
        return 0;
```

```
    }
```

⑦ write a menu driven program with the following options:

- ① check whether a given set of three numbers are lengths of an isosceles triangle or not.
- ② check whether a given set of three numbers are lengths of sides of a right angled triangle or not.
- ③ check whether a given set of three numbers are equilateral triangle or not.
- ④ Exit.

```
#include <stdio.h>
```

```
int main()
```

```
{ int choice, a, b, c;
```

```
printf("Enter your choice\n");
```

```
printf("1 to check isosceles triangle\n");
```

```
printf("2 to check right angle triangle\n");
```

```
printf("3 to check equilateral triangle\n");
```

```
scanf("%d", &choice);
```

```
printf("Enter length of 3 side of triangle\n");
```

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

```
switch(choice)
```

```
{
```

```
case 1: if(a==b || b==c || c==a)
```

```
printf("isosceles");
```

```
else
```

```
printf("not an isosceles");
```

```
break;
```

```
case 2: if(a*a == b*b + c*c || b*b == c*c + a*a || c*c == a*a + b*b)
```

```
printf("right triangle");
```

```
else
```

```
printf("not a right triangle");
```

```
break;
```

```
case 3: if(a==b) && (b==c)
```

```
printf("equilateral triangle");
```

```
else
```

```
printf("not a equilateral triangle");
```

```
break;
```

Case 4 : break;

default : printf("invalid");

}

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 x;

printf("1, 2 or 3\n");

printf("Enter your choice\n");

scanf("%d", &x);

switch (x == 1)

{

Case 0:

printf("good");

break;

Case 0;

switch (x == 2)

{

Case 1;

printf("better");

break;

```

Case 0:
    switch (x == 3)
    {
        Case 1:
            printf("best");
            break;

        default:
            printf("invalid");
    }
}
}
}
return 0;
}

```

⑥ write program to check whether a year is a leap year or not. using switch statement.

```

#include <stdio.h>
int main()
{
    int x = 2002;
    Switch (x % 100 == 0)
    {
        Case 0: Switch (x % 400 == 0)
        {
            case 0: printf("leap year");
            break;
            case 1: printf("non leap year");
            break;
        }
        break;
    }
    Case 1: Switch (x % 4 == 0)
    {
        Case 0: Switch printf("leap year");
        break;
        Case 1: printf("non leap year");
        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 the units above 250 Rs. 1.50/unit

An additional Surcharge of 20% is added to the bill.

```
#include <stdio.h>
```

```
int main()
```

```
{ int unit;
```

```
float amt, total_amt, sur_charge;
```

```
printf("Enter total units Consumed:");
```

```
scanf("%d", &unit);
```

```
if(unit <= 50)
```

```
{ amt = unit * 0.50;
```

```
}
```

```
else if(unit <= 150)
```

```
{ amt = 25 + ((unit - 50) * 0.75);
```

```
}
```

```
else if(unit <= 250)
```

```
{ amt = 100 + ((unit - 150) * 1.20);
```

```
}
```

```
else
```

```
{ amt = 220 + ((unit - 250) * 1.50);
```

```
}
```

```
sur_charge = amt * 0.20;
```

```
total_amt = amt + sur_charge;
```

```
printf("Electricity bill = Rs. %.2f", total_amt);
```

```
return 0;
```

```
}
```

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 x, y;
```

```
printf("Enter a number = ");
```

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

```
switch(x)
```

```
{
```

```
default;
```

```
printf("%d", -x);
```

```
}
```

```
return 0;
```

```
}
```


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

```
#include <stdio.h>
```

```
#include <conio.h>
```

```
int main()
```

```
{
```

```
int choice, ch1, ch2
```

```
int n, x;
```

```
printf("Enter a number = ");
```

```
scanf("%d", &n);
```

```
x = n / 2;
```

```
switch (x)
```

```
{
```

```
Case 0:
```

```
printf("Next odd number is = %d", n+1);
```

```
break;
```

```
Case 1;
```

```
printf("%d is a odd number please enter a even  
number", n);
```

```
break;
```

```
}
```

```
return 0;
```

```
}
```

- ⑩ C program to find all roots of a quadratic equation using Switch Case.

```
#include <stdio.h>
```

```
int main()
```

```
{
```

```
int a, b, c, D, i;
```

```
float root1, root2;
```

```
printf("\n enter the value of a,b,c for quadratic equation
```

```
(ax^2+bx+c)\n");
```

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

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

```
switch(D > 0)
```

```
{
```

```
case 1:
```

```
printf("Both roots are distinct and real\n");
```

```
root1 = ((-b + sqrt(D)) / (2.0 * a));
```

```
root2 = ((-b - sqrt(D)) / (2.0 * a));
```

```
printf("root 1 = %f\n root 2 = %f", root1, root2);
```

```
break;
```

```
case 0:
```

```
switch(D < 0)
```

```
{
```

```
case 1:
```

```
printf("Both roots are imaginary\n");
```

```
break;
```

```
case 0:
```

```
printf("Both roots are equal\n");
```

```
root1 = (-b/2*a);
```

```
root2 = (-b/2*a);
```

```
printf("root 1 = %f\n root 2 = %f", root1, root2);
```

```
break;
```

```
}
```

```
}
```

```
return 0;
```

```
}
```