Q1.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 argc, char *argv[])
{
   int num;

   printf("Enter month number = ");
   scanf("%d", &num);

   switch (num)
   {
      case 1:
      case 3:
      case 5:
      case 8:
      case 10:
      case 12:
      {
         printf("31 Days");
      }
      break;

      case 2:
```

```
        {
            printf("28 or 29 Days");
        }
        break;

        case 4:
        case 6:
        case 9:
        case 11:
        {
            printf("30 Days");
        }
        break;

        default:
        {
            printf("Wrong input");
        }
    }

    return 0;
}
```

Q2.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>
#include <conio.h>

int main(int argc, char *argv[])
{
   float a, b;
   char choice;

   while (1)
   {
      printf("a. Addition\n");
      printf("b. Subtraction\n");
      printf("c. Multiplication\n");
      printf("d. Division\n");
      printf("e. Exit\n\n");

      fflush(stdin);
```

```
    printf("Enter Choice = ");
    scanf("%c", &choice);

    if ((choice == 'a') || (choice == 'b') || (choice == 'c') || (choice ==
'd'))
    {
       printf("Enter two values for operation = ");
       scanf("%f %f", &a, &b);
    }

    switch (choice)
    {
    case 'a':
    {
       printf("Addition = %.2f\n\n", a + b);
    }
    break;

    case 'b':
    {
       printf("Subtraction = %.2f\n\n", a - b);
    }
    break;
```

```
    case 'c':
    {
        printf("Multiplication = %.2f\n\n", a * b);
    }
    break;

    case 'd':
    {
        printf("Division = %.2f\n\n", a / b);
    }
    break;

    case 'e':
    {
        exit(1);
    }
    break;

    default:
    {
        printf("Wrong input\n\n");
    }
    break;
    }
}
```

```
    return 0;
}
```

Q3. 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 argc, char *argv[])
{
   int day;

   printf("Enter day number = ");
   scanf("%d", &day);

   switch (day)
   {
   case 1:
   {
      printf("This is your day !!! Enjoy Your Day !!!");
   }
   break;

   case 2:
   {
      printf("Good Morning....This is Working Day");
   }
   break;
```

```
case 3:
{
   printf("I hope you’re having a wonderful day");
}
break;

case 4:
{
   printf("Dont worry Be happy");
}
break;

case 5:
{
   printf("You are the brightest star on Earth.");
}
break;

case 6:
{
   printf("Kick the negative energy out");
}
break;
```

```
    case 7:
    {
        printf("This is the best day of the week.");
    }
    break;

    default:
    {
        printf("wrong input");
    }
    break;
    }
    return 0;
}
```

Q4.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 <conio.h>

int main(int argc, char *argv[])
{
    char choice;
    float a, b, c;

    do
    {
        printf("a. Check isosceles triangle or not\n");
        printf("b. Check right angled triangle or not\n");
        printf("c. Check equilateral triangle or not\n");
        printf("d. Exit\n\n");

        fflush(stdin);
```

```
printf("Enter choice = ");
scanf("%c", &choice);

if ((choice == 'a') || (choice == 'b') || (choice == 'c'))
{
   printf("Enter three values for triangle = ");
   scanf("%f %f %f", &a, &b, &c);
}

switch (choice)
{
case 'a':
{
   if ((a == b) && (a == c) && (b == c))
   {
      printf("This is not isosceles triangle");
      getch();
      system("cls");
   }
   else if ((a == b) || (a == c) || (b == c))
   {
      printf("This is isosceles triangle");
      getch();
      system("cls");
```

```
    }
}
break;

case 'b':
{
    if ((a * a) + (b * b) == (c * c))
    {
        printf("This is right angle triangle");
        getch();
        system("cls");
    }
    else
    {
        printf("This is not right angle triangle");
        getch();
        system("cls");
    }
}
break;

case 'c':
{
    if ((a == b) && (a == c) && (b == c))
    {
```

```
        printf("This is equilateral triangle");
        getch();
        system("cls");
    }
    else
    {
        printf("This is not equilateral triangle");
        getch();
        system("cls");
    }
}
break;

case 'd':
{
    exit(1);
}
break;

default:
{
    printf("wrong input");
    getch();
    system("cls");
}
```

```
        break;
        }
    } while (1);

    return 0;
}
```

Q5.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 argc, char *argv[])
{
    int var;

    printf("Enter input = ");
    scanf("%d", &var);

    switch (var)
    {
    case 1:
        printf("good");
        break;
```

```
    case 2:
        printf("better");
        break;

    case 3:
        printf("best");
        break;

    default:
        printf("invalid");
        break;
    }

    return 0;
}
```

Q6.Program to check whether a year is a leap year or not. Using switchstatement

```
#include <stdio.h>

int main(int argc, char *argv[])
{
   int year, reminder;

   printf("Enter year = ");
   scanf("%d", &year);

   switch (year % 4)
   {
   case 0:
      printf("leap year");
      break;

   default:
      printf("not a leap year");
      break;
   }
   return 0;
}
```

Q7.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.

```
 float unit, charges = 0;
 int i; #include <stdio.h>

int main(int argc, char *argv[])
{
    printf("Enter unit = ");
    scanf("%f", &unit);

    switch (unit <= 50)
    {
    case 1:
    {
        charges = unit * 0.50;
```

```
}
break;

case 0:
{
   switch (unit <= 150)
   {
   case 1:
   {
      charges = 25 + ((unit - 50) * 0.75);
   }
   break;

   case 0:
   {
      switch (unit <= 250)
      {
      case 1:
      {
         charges = 100 + ((unit - 150) * 1.20);
      }
      break;

      case 0:
      {
```

```
            charges = 220 + ((unit - 250) * 1.50);
        }
        break;
        }
    }
    break;
    }
}
    printf("Total charges = %.2f", ((20 * charges) / 100)+charges);

    return 0;
}
```

Q8.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 argc, char *argv[])
{
    int num;

    printf("Enter number = ");
    scanf("%d", &num);

    int i = num > 0;

    switch (i)
    {
    case 1:
        printf("number convert into negative = %d", num * -1);
        break;
    case 0:
        printf("number convert into positive =  %d", num * -1);
        break;
    default:
        printf("invalid input");
```

```
        break;
    }

    return 0;
}
```

Q9.Program to Convert even number into its upper nearest odd number using Switch Statement.

```
#include <stdio.h>

int main(int argc, char *argv[])
{
    int num;

    printf("Enter number = ");
    scanf("%d", &num);

    int i = ((num % 2) ^ ((num > 0)&&(num!=0)));

    switch (i)
    {
    case 0:
        printf("Enter even number");
        break;

    case 1:
        printf("nearest odd number = %d", num + 1);
        break;

    default:
```

```
        printf("invalid input");
        break;
    }

    return 0;
}
```

Q10.C program to find all roots of a quadratic equation using switch case

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

int main(int argc, char *argv[])
{
    int a, b, c, root1, root2, disc, i;

    printf("Enter value of a, b, c = ");
    scanf("%d %d %d", &a, &b, &c);

    disc = (b * b) - (4 * a * c);

    if (disc > 0)
        i = 0;
    else if (disc == 0)
        i = 1;
    else
        i = 2;

    switch (i)
    {
    case 0:
```

```
{
   root1 = (-b + sqrt(disc)) / (2 * a);
   root2 = (-b - sqrt(disc)) / (2 * a);
   printf("Roots are real and distinct\n");
   printf("Root1 = %d\nRoot2 = %d", root1, root2);
}
break;

case 1:
{
   root1 = -b / (2 * a);
   printf("Both roots are equal\n");
   printf("root1 and root2 = %d", root1);
}
break;

case 2:
{
   printf("roots are imaginery");
}
break;

default:
{
   printf("invalid input");
```

```
    }
    break;
    }

    return 0;
}
```