Project Complete

Task 1

Description:

Creating a simple calculator in C programming using the

If selection statement,

switch Multiple selection statement,

while iteration Statement,

Counter Control iteration,

This program takes an arithmetic operator +, -, *, / and two operands from the user. Then, it performs the calculation on the two operands depending upon the operator entered by the user.

The * operator entered by the user is stored in op. And, the two operands, 1.5 and 4.5 are stored in first and second respectively.

Since the operator * matches case '*':, the control of the program jumps to

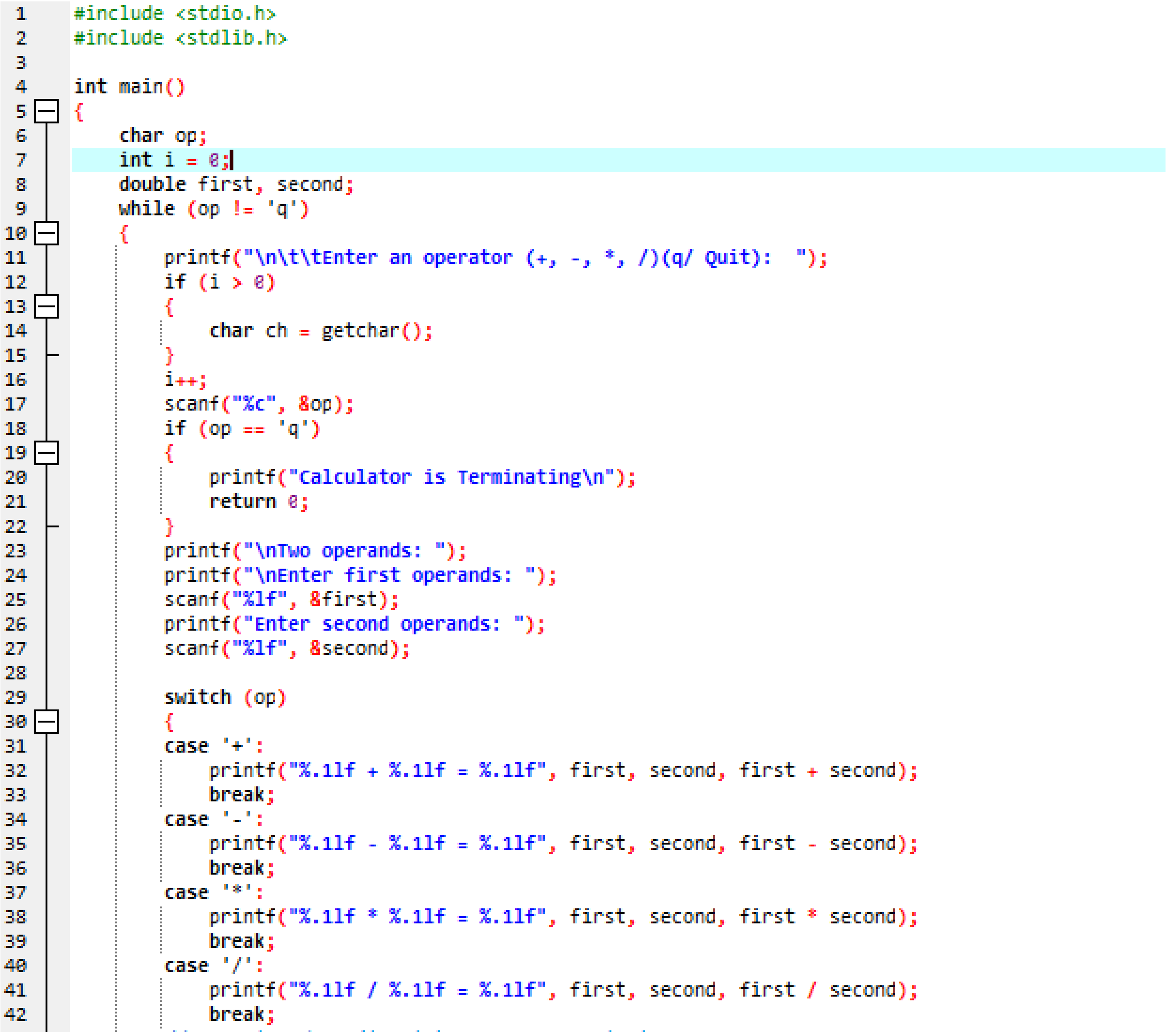
printf("%.1lf * %.1lf = %.1lf", first, second, first * second);

This statement calculates the product and displays it on the screen.

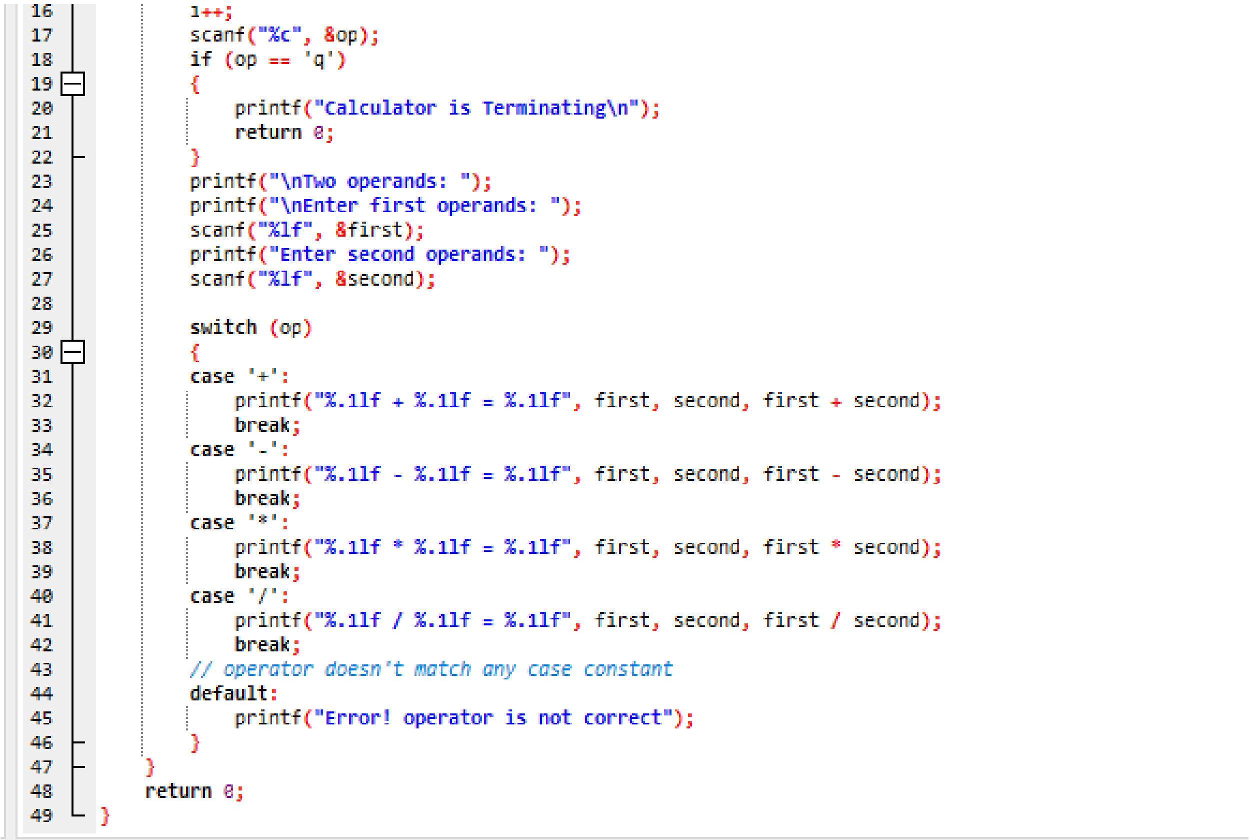
To make our output look cleaner, we have simply limited the output to one decimal place using the code %.1lf.

Finally, the break; statement ends the switch statement

Code:

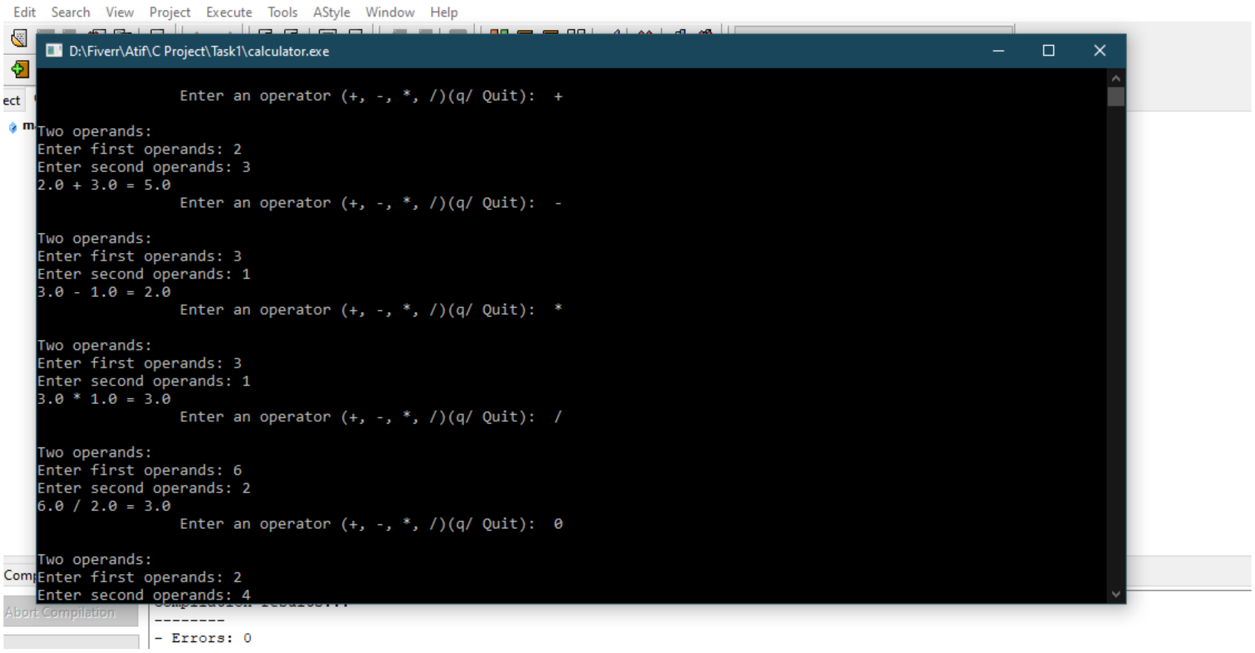


```c
#include <stdio.h>
#include <stdlib.h>

int main()
{
    char op;
    int i = 0;
    double first, second;
    while (op != 'q')
    {
        printf("\n\t\tEnter an operator (+, -, *, /)(q/ Quit):  ");
        if (i > 0)
        {
            char ch = getchar();
        }
        i++;
        scanf("%c", &op);
        if (op == 'q')
        {
            printf("Calculator is Terminating\n");
            return 0;
        }
        printf("\nTwo operands: ");
        printf("\nEnter first operands: ");
        scanf("%lf", &first);
        printf("Enter second operands: ");
        scanf("%lf", &second);

        switch (op)
        {
        case '+':
            printf("%.1lf + %.1lf = %.1lf", first, second, first + second);
            break;
        case '-':
            printf("%.1lf - %.1lf = %.1lf", first, second, first - second);
            break;
        case '*':
            printf("%.1lf * %.1lf = %.1lf", first, second, first * second);
            break;
        case '/':
            printf("%.1lf / %.1lf = %.1lf", first, second, first / second);
            break;
```



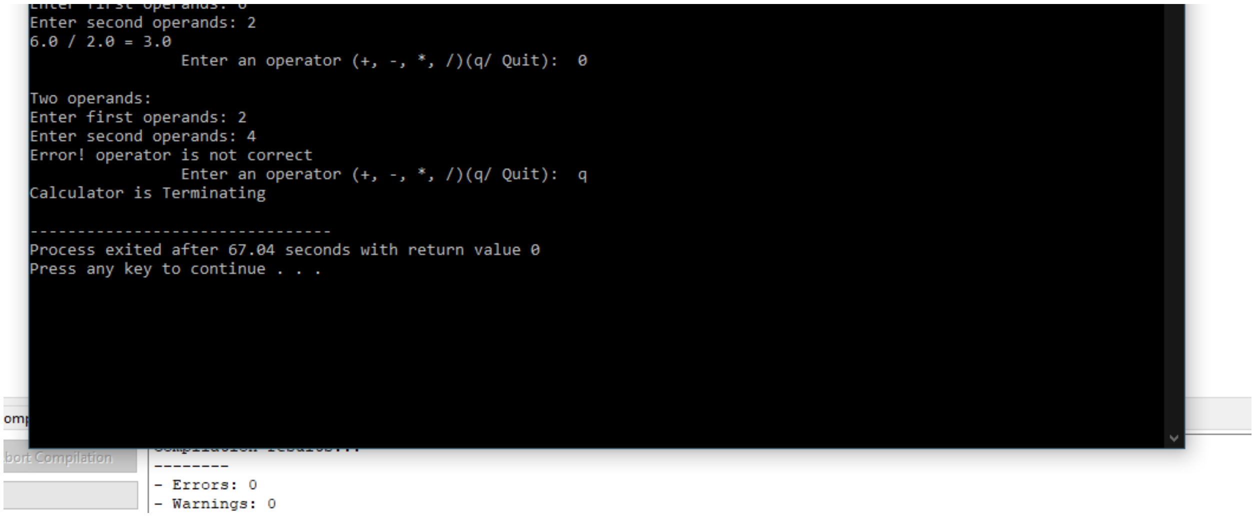
```c
        i++;
        scanf("%c", &op);
        if (op == 'q')
        {
            printf("Calculator is Terminating\n");
            return 0;
        }
        printf("\nTwo operands: ");
        printf("\nEnter first operands: ");
        scanf("%lf", &first);
        printf("Enter second operands: ");
        scanf("%lf", &second);

        switch (op)
        {
        case '+':
            printf("%.1lf + %.1lf = %.1lf", first, second, first + second);
            break;
        case '-':
            printf("%.1lf - %.1lf = %.1lf", first, second, first - second);
            break;
        case '*':
            printf("%.1lf * %.1lf = %.1lf", first, second, first * second);
            break;
        case '/':
            printf("%.1lf / %.1lf = %.1lf", first, second, first / second);
            break;
        // operator doesn't match any case constant
        default:
            printf("Error! operator is not correct");
        }
    }
    return 0;
}
```

Output:



```
                Enter an operator (+, -, *, /)(q/ Quit):  +

Two operands:
Enter first operands: 2
Enter second operands: 3
2.0 + 3.0 = 5.0
                Enter an operator (+, -, *, /)(q/ Quit):  -

Two operands:
Enter first operands: 3
Enter second operands: 1
3.0 - 1.0 = 2.0
                Enter an operator (+, -, *, /)(q/ Quit):  *

Two operands:
Enter first operands: 3
Enter second operands: 1
3.0 * 1.0 = 3.0
                Enter an operator (+, -, *, /)(q/ Quit):  /

Two operands:
Enter first operands: 6
Enter second operands: 2
6.0 / 2.0 = 3.0
                Enter an operator (+, -, *, /)(q/ Quit):  0

Two operands:
Enter first operands: 2
Enter second operands: 4
```

```
Compilation results...
--------
- Errors: 0
```



```
Enter first operands: 6
Enter second operands: 2
6.0 / 2.0 = 3.0
                Enter an operator (+, -, *, /)(q/ Quit):  0

Two operands:
Enter first operands: 2
Enter second operands: 4
Error! operator is not correct
                Enter an operator (+, -, *, /)(q/ Quit):  q
Calculator is Terminating

--------------------------------
Process exited after 67.04 seconds with return value 0
Press any key to continue . . .
```

```
Compilation results...
--------
- Errors: 0
- Warnings: 0
```

Task 2

Number Converter:

Description:

The topics we covered in this program is:

Control Structure,

If selection statement,

If else... selection statement,

Nested loop Counter statement

switch Multiple selection statement,

while iteration Statement,

Counter Control iteration,

For iteration statement,

Here is a program for numbers conversion. This program can convert Binary number, decimal number and hexadecimal number to each other respectively.

By entering choice, you can get choice for number conversion.

If user can choice 1, it will convert binary to decimal

For choice 1, it will take binary number and it will output will be in decimal number.

If user can choice 2, it will convert binary to hexa-decimal

For choice 2, it will take binary number and it will output will be in hexa-decimal number.

If user can choice 3, it will convert decimal to binary

For choice 3, it will take decimal number and it will output will be in binary number.

If user can choice 4, it will convert decimal to hexa-decimal

For choice 4, it will take decimal number and it will output will be in hexa-decimal number.

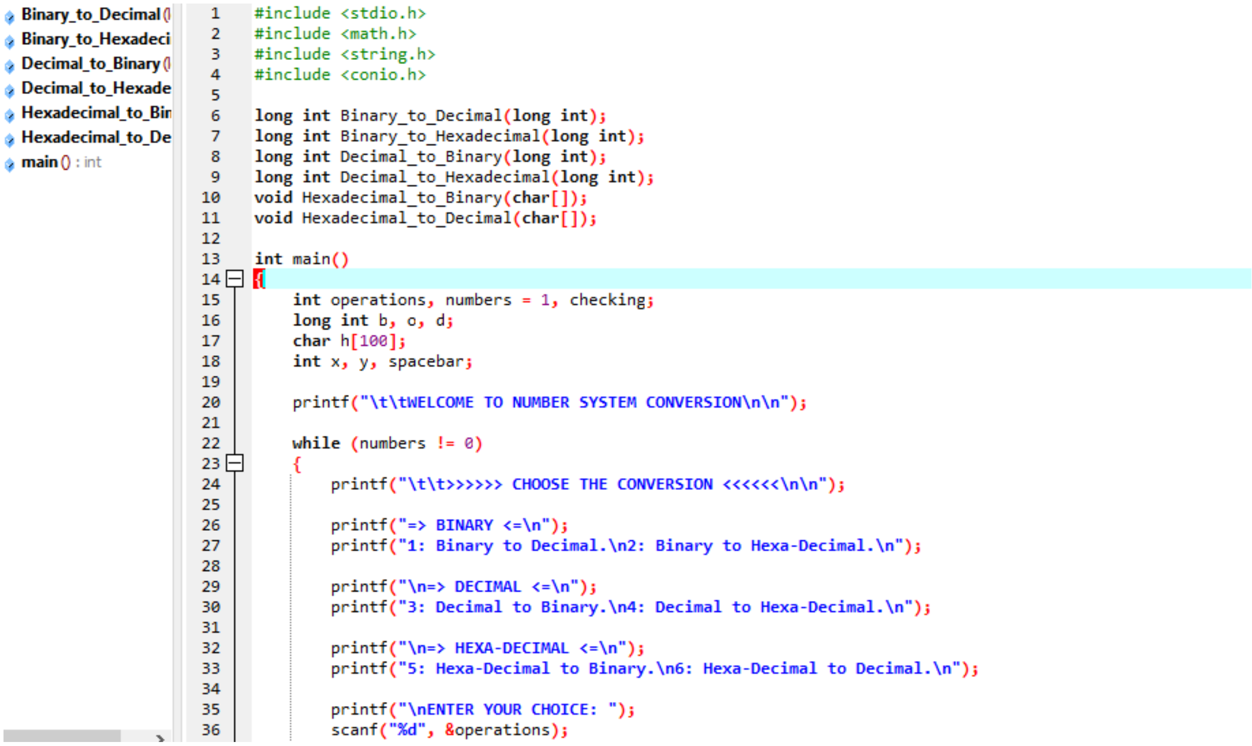
If user can choice 5, it will convert hexa-decimal to binary

For choice 5, it will take hexa-decimal number and it will output will be in binary number.

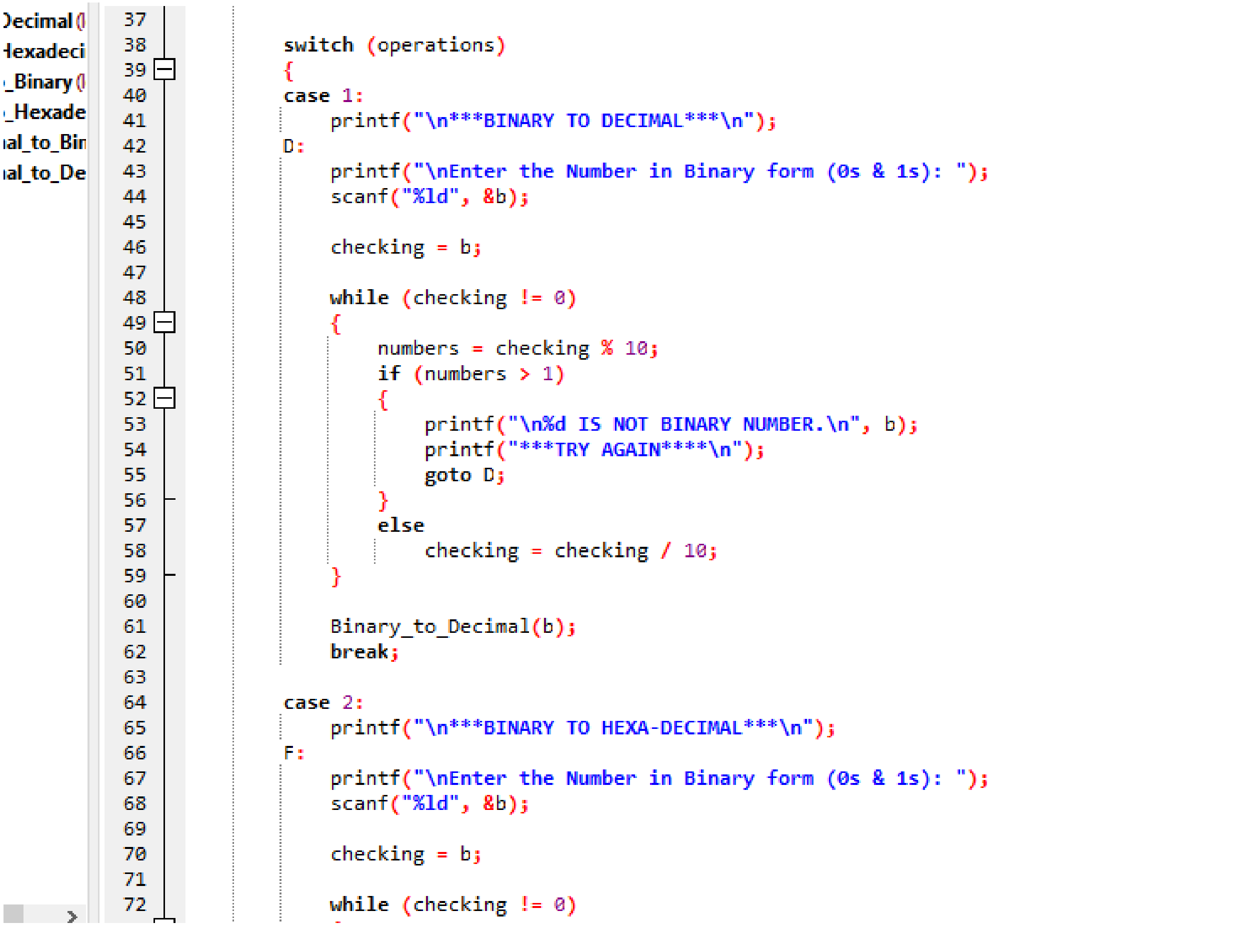
If user can choice 6, it will convert hexa-decimal to decimal

For choice 6, it will take hexa-decimal number and it will output will be in decimal number.

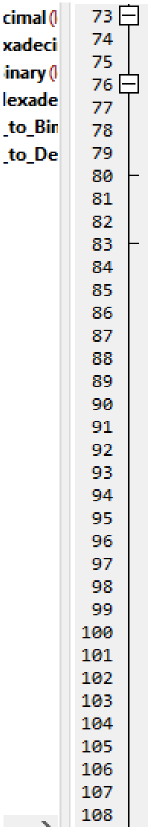
Code:



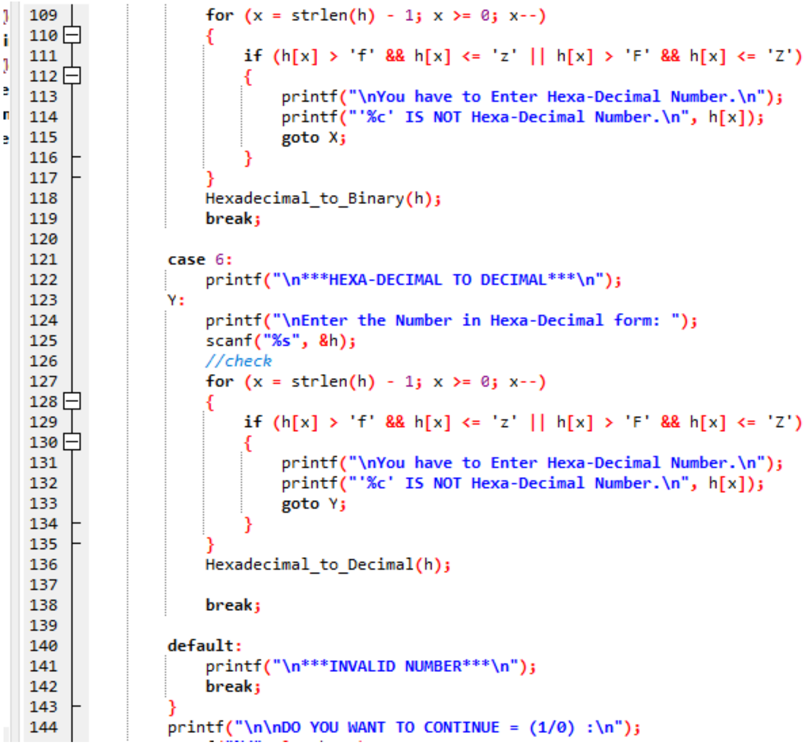
```c
#include <stdio.h>
#include <math.h>
#include <string.h>
#include <conio.h>

long int Binary_to_Decimal(long int);
long int Binary_to_Hexadecimal(long int);
long int Decimal_to_Binary(long int);
long int Decimal_to_Hexadecimal(long int);
void Hexadecimal_to_Binary(char[]);
void Hexadecimal_to_Decimal(char[]);

int main()
{
    int operations, numbers = 1, checking;
    long int b, o, d;
    char h[100];
    int x, y, spacebar;

    printf("\t\tWELCOME TO NUMBER SYSTEM CONVERSION\n\n");

    while (numbers != 0)
    {
        printf("\t\t>>>>>> CHOOSE THE CONVERSION <<<<<<\n\n");

        printf("=> BINARY <=\n");
        printf("1: Binary to Decimal.\n2: Binary to Hexa-Decimal.\n");

        printf("\n=> DECIMAL <=\n");
        printf("3: Decimal to Binary.\n4: Decimal to Hexa-Decimal.\n");

        printf("\n=> HEXA-DECIMAL <=\n");
        printf("5: Hexa-Decimal to Binary.\n6: Hexa-Decimal to Decimal.\n");

        printf("\nENTER YOUR CHOICE: ");
        scanf("%d", &operations);
```



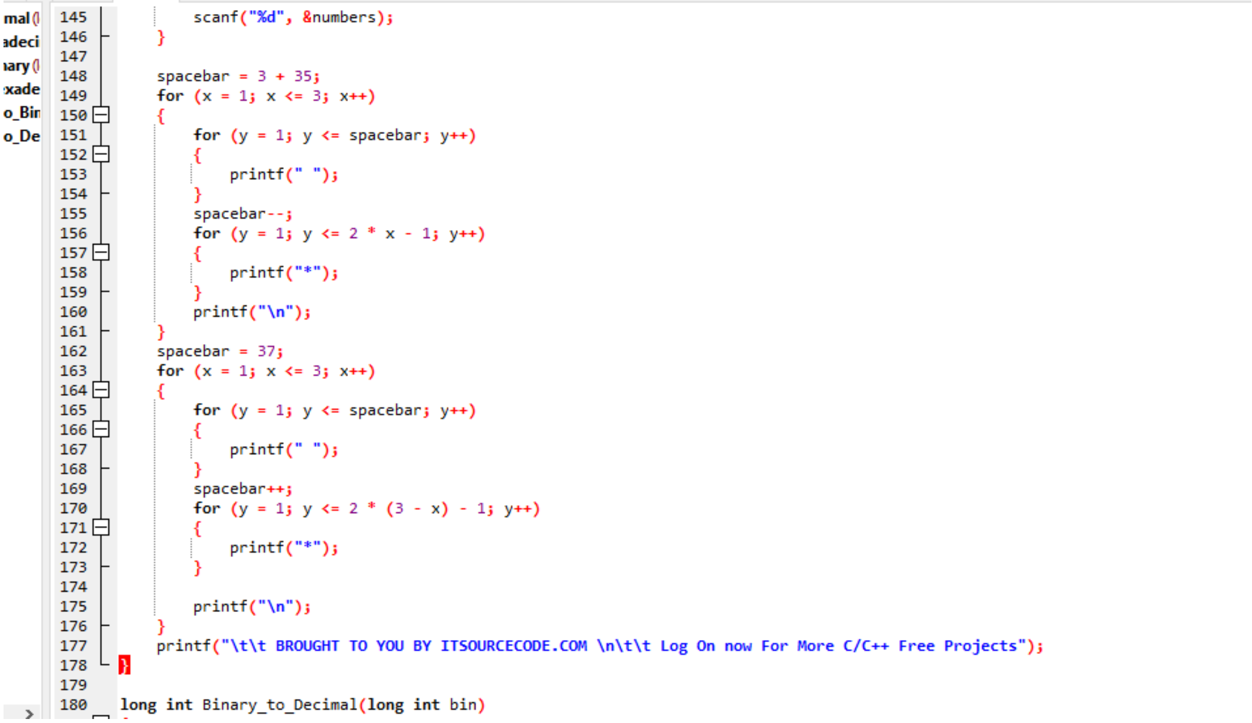
```c

        switch (operations)
        {
        case 1:
            printf("\n***BINARY TO DECIMAL***\n");
        D:
            printf("\nEnter the Number in Binary form (0s & 1s): ");
            scanf("%ld", &b);

            checking = b;

            while (checking != 0)
            {
                numbers = checking % 10;
                if (numbers > 1)
                {
                    printf("\n%d IS NOT BINARY NUMBER.\n", b);
                    printf("***TRY AGAIN****\n");
                    goto D;
                }
                else
                    checking = checking / 10;
            }

            Binary_to_Decimal(b);
            break;

        case 2:
            printf("\n***BINARY TO HEXA-DECIMAL***\n");
        F:
            printf("\nEnter the Number in Binary form (0s & 1s): ");
            scanf("%ld", &b);

            checking = b;

            while (checking != 0)
```



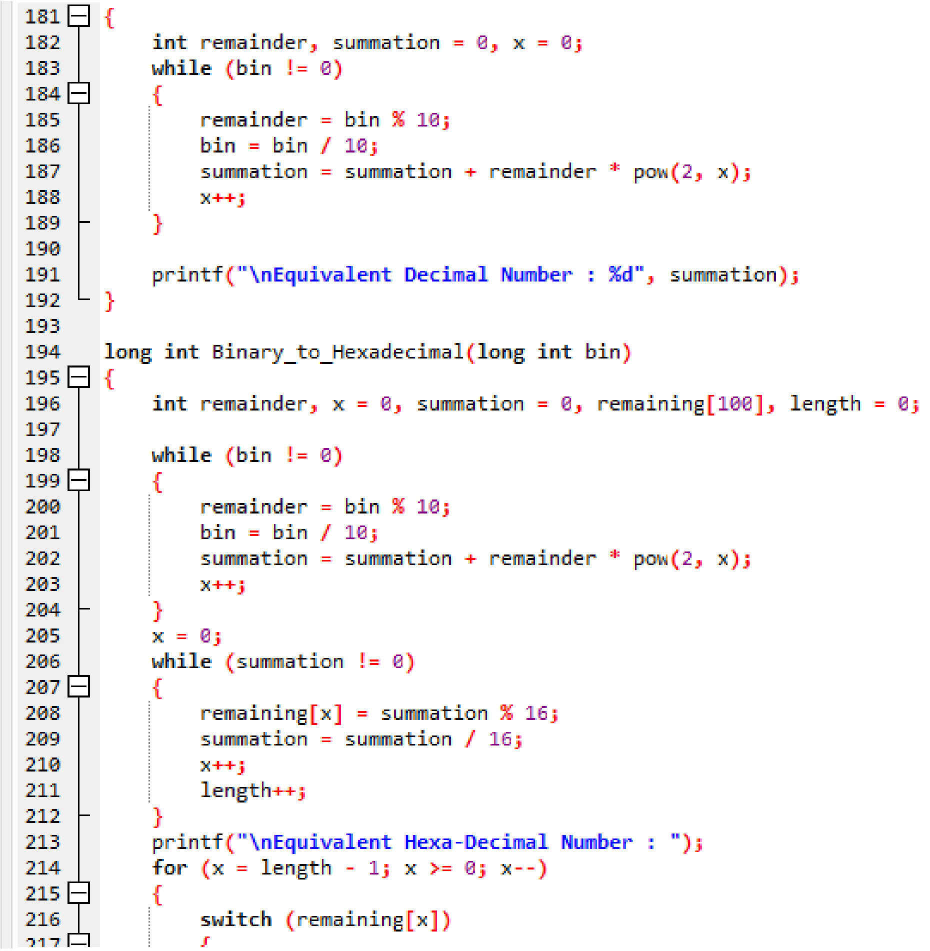
```
            {
                numbers = checking % 10;
                if (numbers > 1)
                {
                    printf("\n%d IS NOT BINARY NUMBER.\n", b);
                    printf("***TRY AGAIN****\n");
                    goto F;
                }
                else
                    checking = checking / 10;
            }

            Binary_to_Hexadecimal(b);
            break;

        case 3:
            printf("\n***DECIMAL TO BINARY***\n");
            printf("\nEnter the Number in Decimal form (0 to 9): ");
            scanf("%ld", &d);
            Decimal_to_Binary(d);
            break;

        case 4:
            printf("\n***DECIMAL TO HEXA-DECIMAL***\n");
            printf("\nEnter the Number in Decimal form (0 to 9): ");
            scanf("%ld", &d);
            Decimal_to_Hexadecimal(d);

            break;

        case 5:
            printf("\n***HEXA-DECIMAL TO BINARY***\n");
        X:
            printf("\nEnter the Number in Hexa-Decimal form: ");
            scanf("%s", &h);
            //check
```



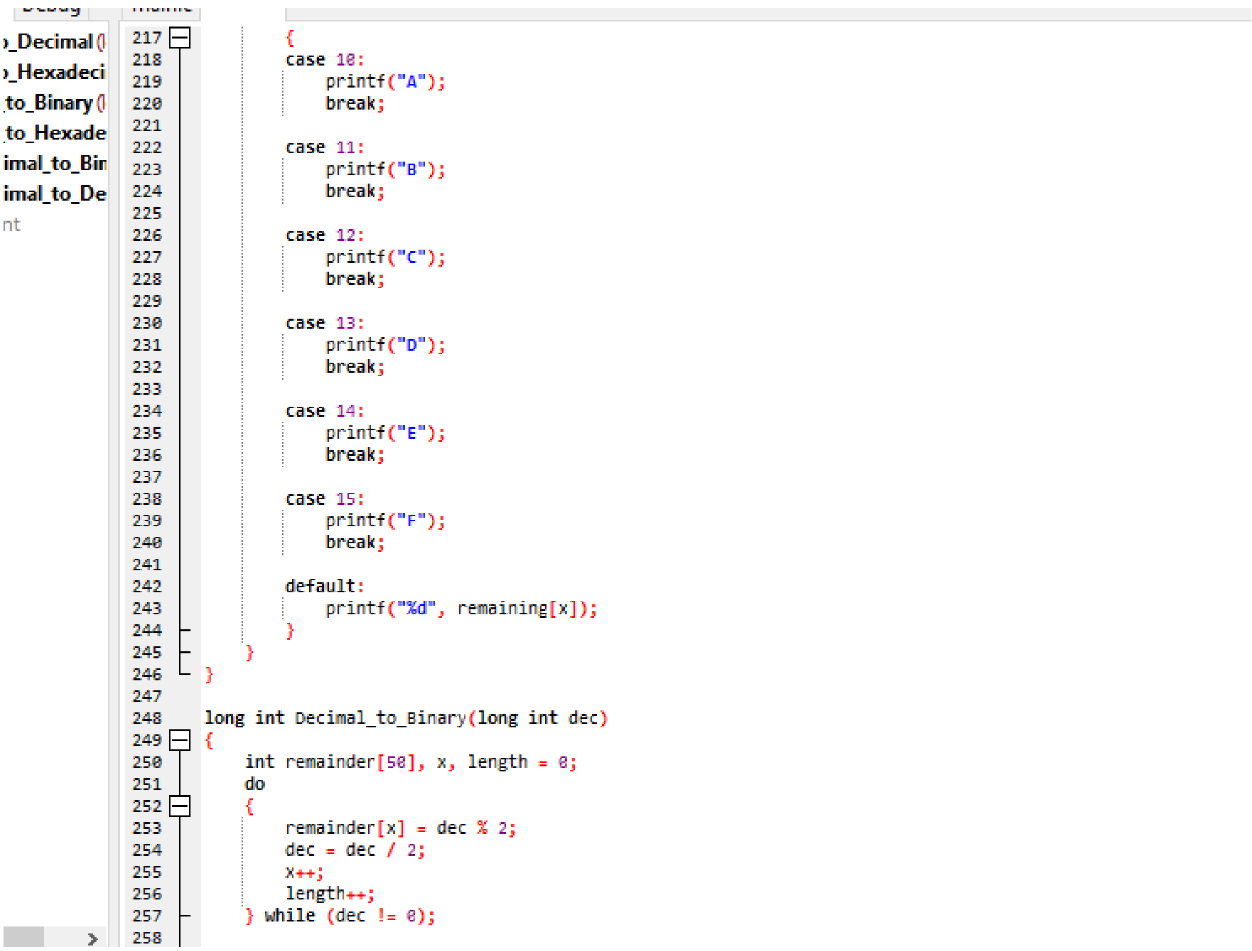
```
            for (x = strlen(h) - 1; x >= 0; x--)
            {
                if (h[x] > 'f' && h[x] <= 'z' || h[x] > 'F' && h[x] <= 'Z')
                {
                    printf("\nYou have to Enter Hexa-Decimal Number.\n");
                    printf("'%c' IS NOT Hexa-Decimal Number.\n", h[x]);
                    goto X;
                }
            }
            Hexadecimal_to_Binary(h);
            break;

        case 6:
            printf("\n***HEXA-DECIMAL TO DECIMAL***\n");
        Y:
            printf("\nEnter the Number in Hexa-Decimal form: ");
            scanf("%s", &h);
            //check
            for (x = strlen(h) - 1; x >= 0; x--)
            {
                if (h[x] > 'f' && h[x] <= 'z' || h[x] > 'F' && h[x] <= 'Z')
                {
                    printf("\nYou have to Enter Hexa-Decimal Number.\n");
                    printf("'%c' IS NOT Hexa-Decimal Number.\n", h[x]);
                    goto Y;
                }
            }
            Hexadecimal_to_Decimal(h);

            break;

        default:
            printf("\n***INVALID NUMBER***\n");
            break;
        }
        printf("\n\nDO YOU WANT TO CONTINUE = (1/0) :\n");
```



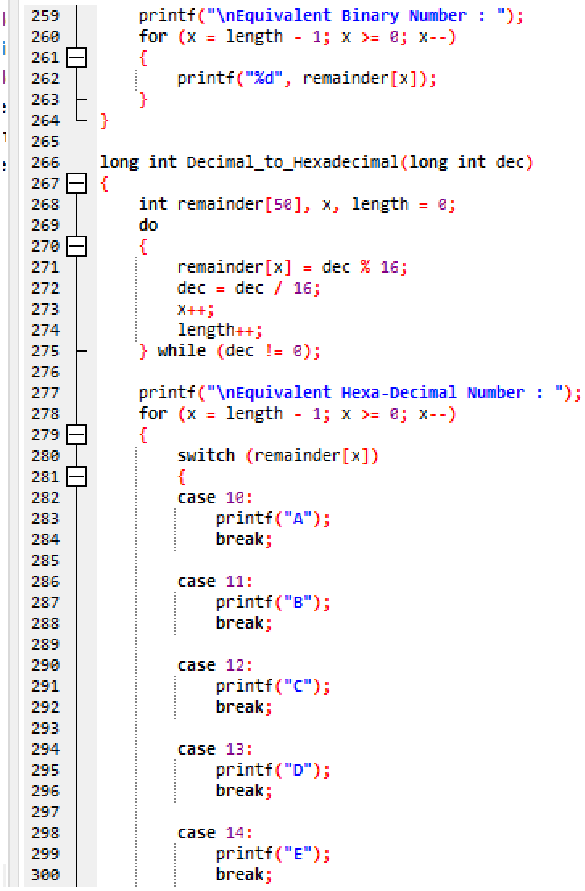
```
        scanf("%d", &numbers);
    }

    spacebar = 3 + 35;
    for (x = 1; x <= 3; x++)
    {
        for (y = 1; y <= spacebar; y++)
        {
            printf(" ");
        }
        spacebar--;
        for (y = 1; y <= 2 * x - 1; y++)
        {
            printf("*");
        }
        printf("\n");
    }
    spacebar = 37;
    for (x = 1; x <= 3; x++)
    {
        for (y = 1; y <= spacebar; y++)
        {
            printf(" ");
        }
        spacebar++;
        for (y = 1; y <= 2 * (3 - x) - 1; y++)
        {
            printf("*");
        }

        printf("\n");
    }
    printf("\t\t BROUGHT TO YOU BY ITSOURCECODE.COM \n\t\t Log On now For More C/C++ Free Projects");
}

long int Binary_to_Decimal(long int bin)
```



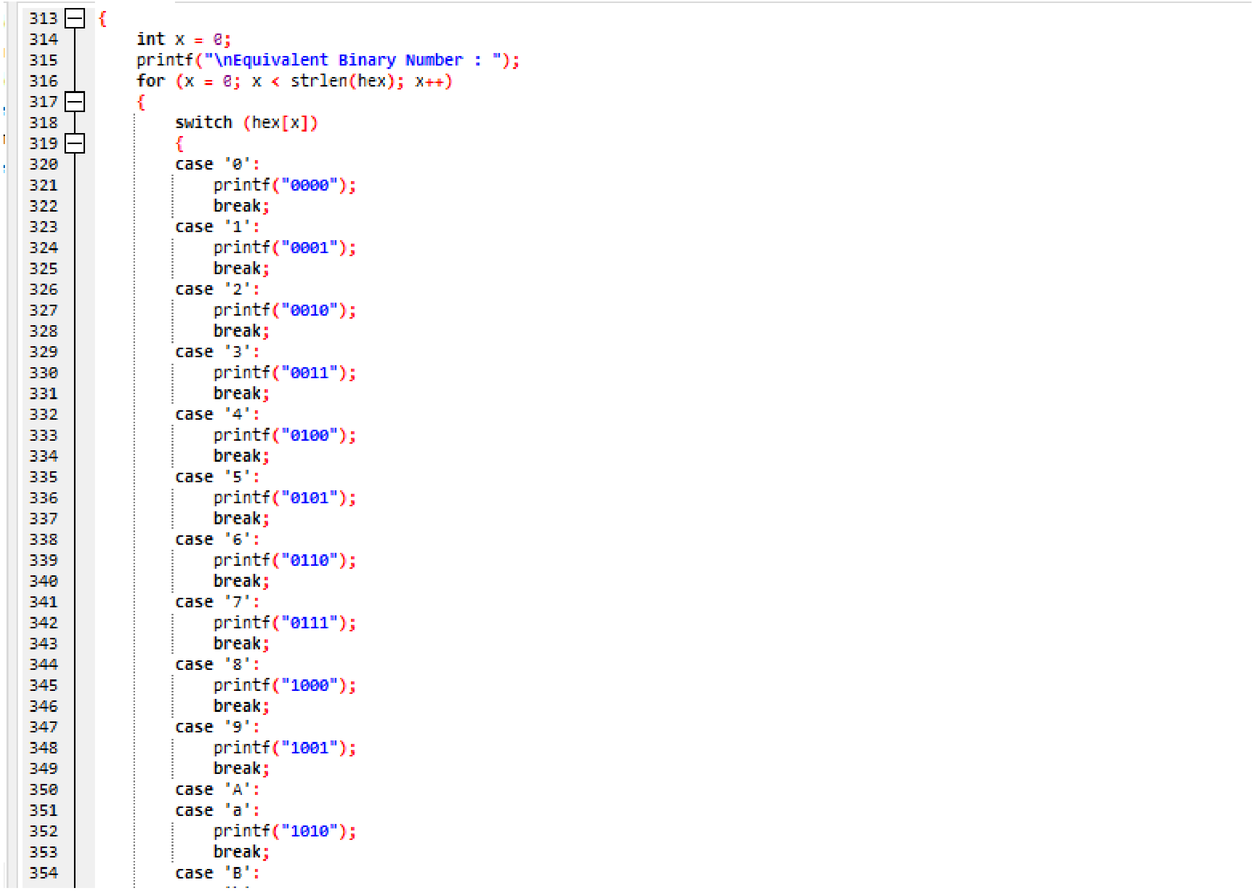
```
{
    int remainder, summation = 0, x = 0;
    while (bin != 0)
    {
        remainder = bin % 10;
        bin = bin / 10;
        summation = summation + remainder * pow(2, x);
        x++;
    }

    printf("\nEquivalent Decimal Number : %d", summation);
}

long int Binary_to_Hexadecimal(long int bin)
{
    int remainder, x = 0, summation = 0, remaining[100], length = 0;

    while (bin != 0)
    {
        remainder = bin % 10;
        bin = bin / 10;
        summation = summation + remainder * pow(2, x);
        x++;
    }
    x = 0;
    while (summation != 0)
    {
        remaining[x] = summation % 16;
        summation = summation / 16;
        x++;
        length++;
    }
    printf("\nEquivalent Hexa-Decimal Number : ");
    for (x = length - 1; x >= 0; x--)
    {
        switch (remaining[x])
        {
```



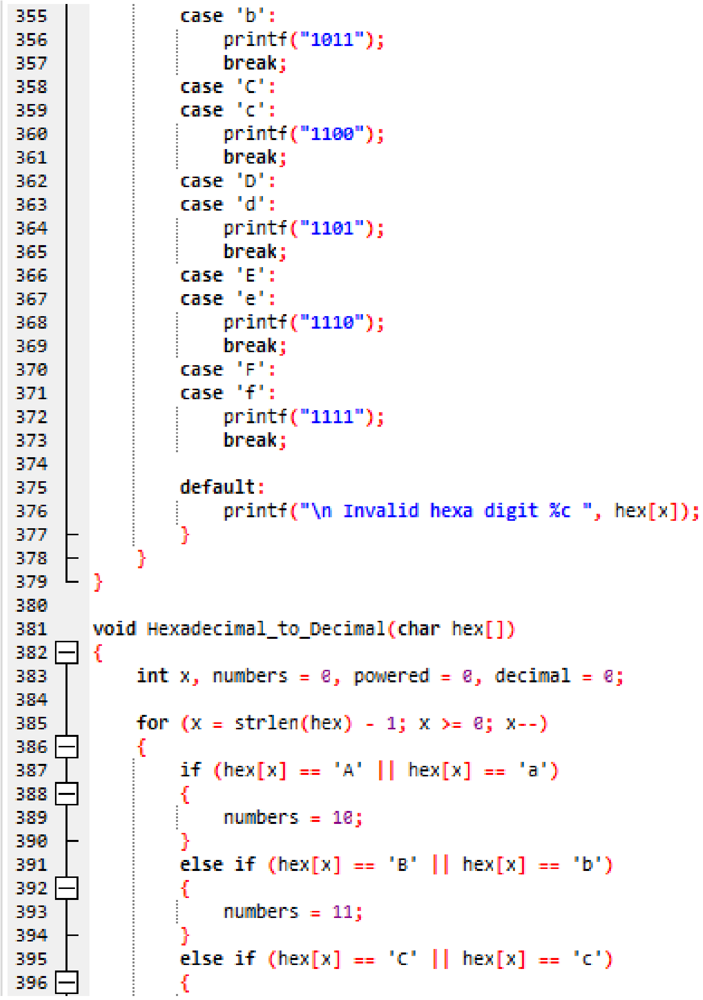
```
        {
        case 10:
            printf("A");
            break;

        case 11:
            printf("B");
            break;

        case 12:
            printf("C");
            break;

        case 13:
            printf("D");
            break;

        case 14:
            printf("E");
            break;

        case 15:
            printf("F");
            break;

        default:
            printf("%d", remaining[x]);
        }
    }
}

long int Decimal_to_Binary(long int dec)
{
    int remainder[50], x, length = 0;
    do
    {
        remainder[x] = dec % 2;
        dec = dec / 2;
        x++;
        length++;
    } while (dec != 0);

```



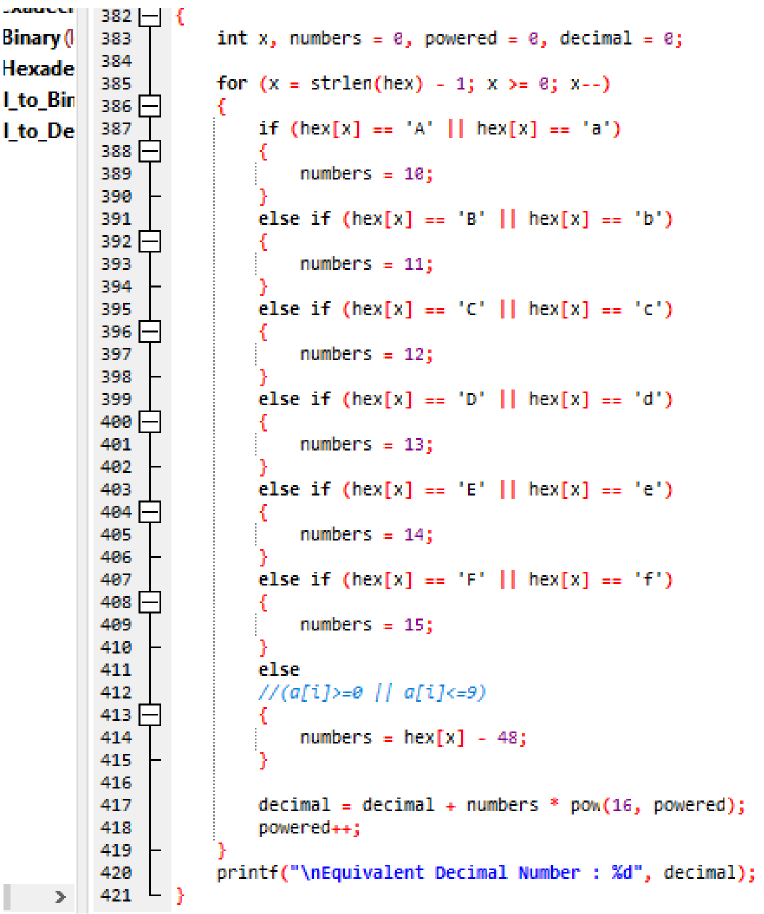
```c
    printf("\nEquivalent Binary Number : ");
    for (x = length - 1; x >= 0; x--)
    {
        printf("%d", remainder[x]);
    }
}

long int Decimal_to_Hexadecimal(long int dec)
{
    int remainder[50], x, length = 0;
    do
    {
        remainder[x] = dec % 16;
        dec = dec / 16;
        x++;
        length++;
    } while (dec != 0);

    printf("\nEquivalent Hexa-Decimal Number : ");
    for (x = length - 1; x >= 0; x--)
    {
        switch (remainder[x])
        {
        case 10:
            printf("A");
            break;

        case 11:
            printf("B");
            break;

        case 12:
            printf("C");
            break;

        case 13:
            printf("D");
            break;

        case 14:
            printf("E");
            break;
```



```c
{
    int x = 0;
    printf("\nEquivalent Binary Number : ");
    for (x = 0; x < strlen(hex); x++)
    {
        switch (hex[x])
        {
        case '0':
            printf("0000");
            break;
        case '1':
            printf("0001");
            break;
        case '2':
            printf("0010");
            break;
        case '3':
            printf("0011");
            break;
        case '4':
            printf("0100");
            break;
        case '5':
            printf("0101");
            break;
        case '6':
            printf("0110");
            break;
        case '7':
            printf("0111");
            break;
        case '8':
            printf("1000");
            break;
        case '9':
            printf("1001");
            break;
        case 'A':
        case 'a':
            printf("1010");
            break;
        case 'B':
```

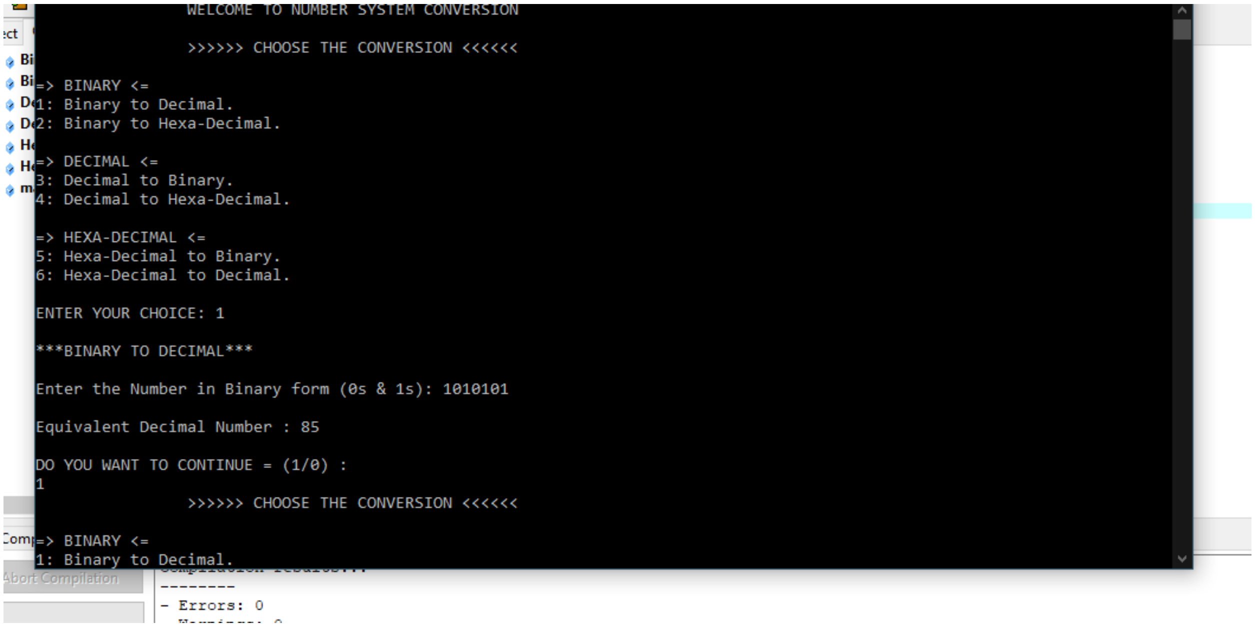


```
        case 'b':
            printf("1011");
            break;
        case 'C':
        case 'c':
            printf("1100");
            break;
        case 'D':
        case 'd':
            printf("1101");
            break;
        case 'E':
        case 'e':
            printf("1110");
            break;
        case 'F':
        case 'f':
            printf("1111");
            break;

        default:
            printf("\n Invalid hexa digit %c ", hex[x]);
        }
    }
}

void Hexadecimal_to_Decimal(char hex[])
{
    int x, numbers = 0, powered = 0, decimal = 0;

    for (x = strlen(hex) - 1; x >= 0; x--)
    {
        if (hex[x] == 'A' || hex[x] == 'a')
        {
            numbers = 10;
        }
        else if (hex[x] == 'B' || hex[x] == 'b')
        {
            numbers = 11;
        }
        else if (hex[x] == 'C' || hex[x] == 'c')
        {
```

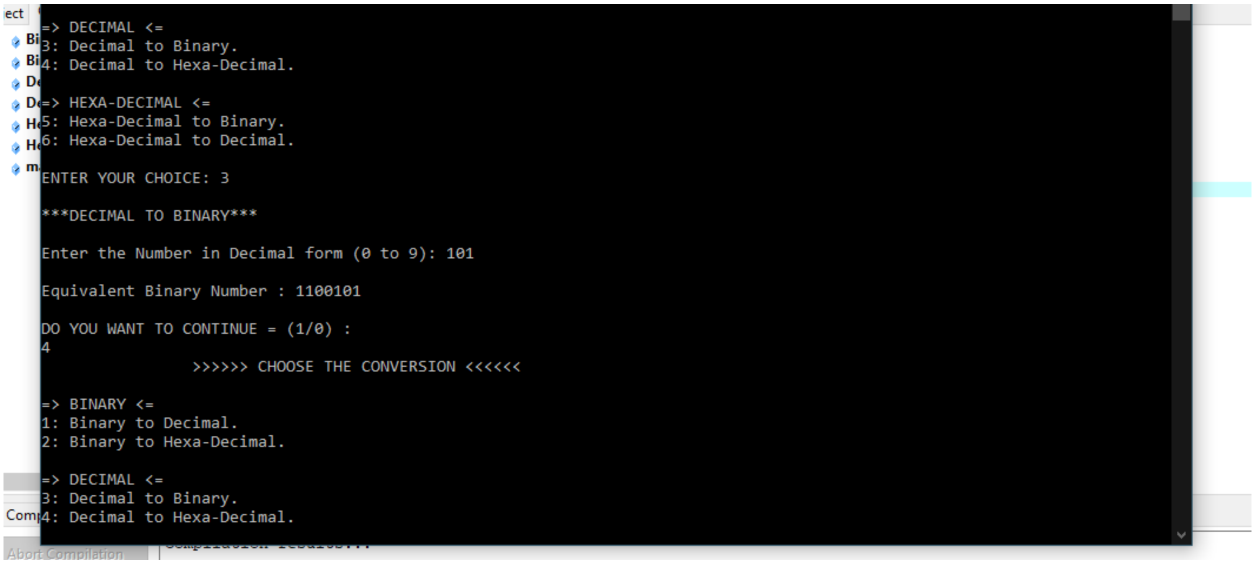


```
{
    int x, numbers = 0, powered = 0, decimal = 0;

    for (x = strlen(hex) - 1; x >= 0; x--)
    {
        if (hex[x] == 'A' || hex[x] == 'a')
        {
            numbers = 10;
        }
        else if (hex[x] == 'B' || hex[x] == 'b')
        {
            numbers = 11;
        }
        else if (hex[x] == 'C' || hex[x] == 'c')
        {
            numbers = 12;
        }
        else if (hex[x] == 'D' || hex[x] == 'd')
        {
            numbers = 13;
        }
        else if (hex[x] == 'E' || hex[x] == 'e')
        {
            numbers = 14;
        }
        else if (hex[x] == 'F' || hex[x] == 'f')
        {
            numbers = 15;
        }
        else
        //(a[i]>=0 || a[i]<=9)
        {
            numbers = hex[x] - 48;
        }

        decimal = decimal + numbers * pow(16, powered);
        powered++;
    }
    printf("\nEquivalent Decimal Number : %d", decimal);
}
```

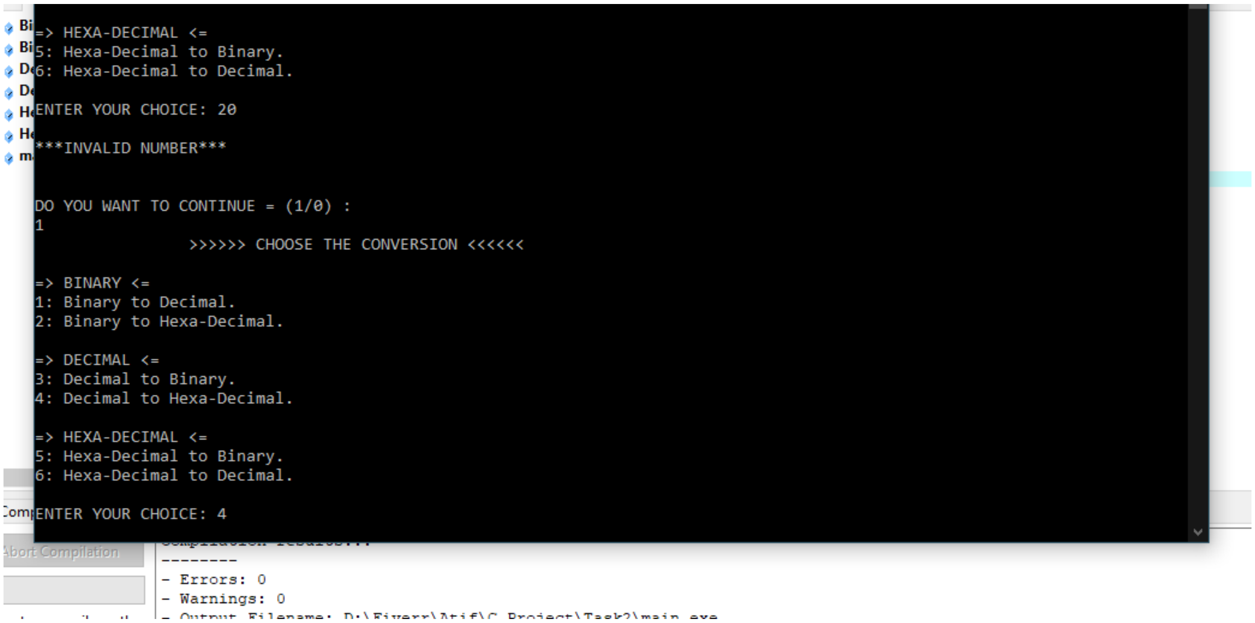
Output:



```
                WELCOME TO NUMBER SYSTEM CONVERSION

                >>>>>> CHOOSE THE CONVERSION <<<<<<

=> BINARY <=
1: Binary to Decimal.
2: Binary to Hexa-Decimal.

=> DECIMAL <=
3: Decimal to Binary.
4: Decimal to Hexa-Decimal.

=> HEXA-DECIMAL <=
5: Hexa-Decimal to Binary.
6: Hexa-Decimal to Decimal.

ENTER YOUR CHOICE: 1

***BINARY TO DECIMAL***

Enter the Number in Binary form (0s & 1s): 1010101

Equivalent Decimal Number : 85

DO YOU WANT TO CONTINUE = (1/0) :
1
                >>>>>> CHOOSE THE CONVERSION <<<<<<

=> BINARY <=
1: Binary to Decimal.
```

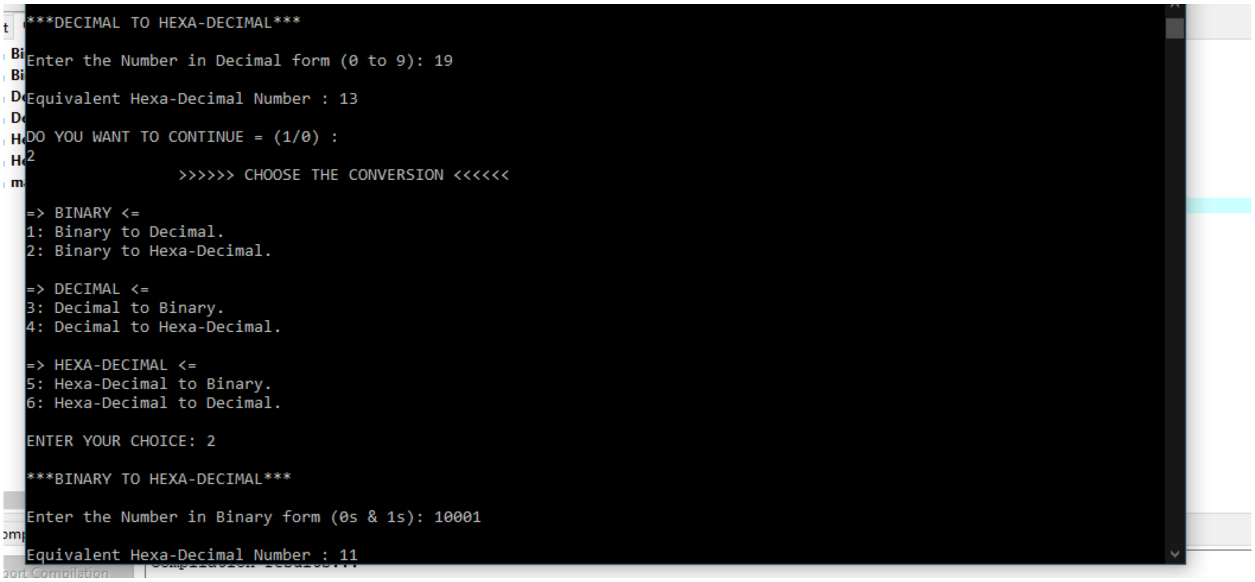


```
=> DECIMAL <=
3: Decimal to Binary.
4: Decimal to Hexa-Decimal.

=> HEXA-DECIMAL <=
5: Hexa-Decimal to Binary.
6: Hexa-Decimal to Decimal.

ENTER YOUR CHOICE: 3

***DECIMAL TO BINARY***

Enter the Number in Decimal form (0 to 9): 101

Equivalent Binary Number : 1100101

DO YOU WANT TO CONTINUE = (1/0) :
4
                >>>>>> CHOOSE THE CONVERSION <<<<<<

=> BINARY <=
1: Binary to Decimal.
2: Binary to Hexa-Decimal.

=> DECIMAL <=
3: Decimal to Binary.
4: Decimal to Hexa-Decimal.
```

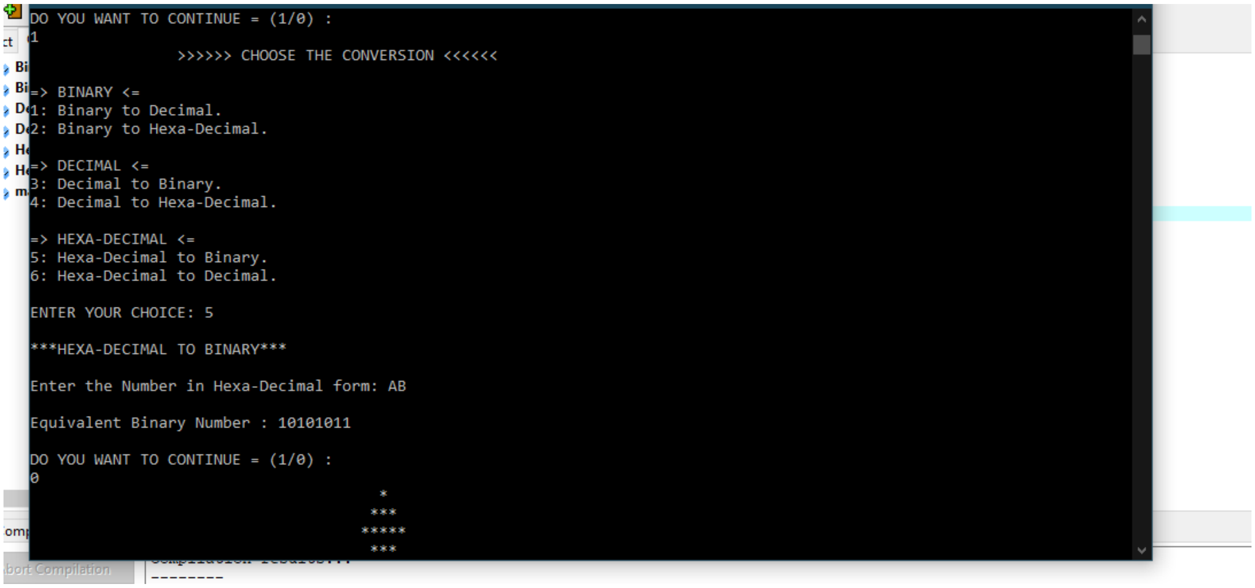


```
=> HEXA-DECIMAL <=
5: Hexa-Decimal to Binary.
6: Hexa-Decimal to Decimal.

ENTER YOUR CHOICE: 20

***INVALID NUMBER***


DO YOU WANT TO CONTINUE = (1/0) :
1
                >>>>>> CHOOSE THE CONVERSION <<<<<<

=> BINARY <=
1: Binary to Decimal.
2: Binary to Hexa-Decimal.

=> DECIMAL <=
3: Decimal to Binary.
4: Decimal to Hexa-Decimal.

=> HEXA-DECIMAL <=
5: Hexa-Decimal to Binary.
6: Hexa-Decimal to Decimal.

ENTER YOUR CHOICE: 4
```

```
--------
- Errors: 0
- Warnings: 0
- Output Filename: D:\Fiverr\Atif\C Project\Task2\main.exe
```



```
***DECIMAL TO HEXA-DECIMAL***

Enter the Number in Decimal form (0 to 9): 19

Equivalent Hexa-Decimal Number : 13

DO YOU WANT TO CONTINUE = (1/0) :
2
                >>>>>> CHOOSE THE CONVERSION <<<<<<

=> BINARY <=
1: Binary to Decimal.
2: Binary to Hexa-Decimal.

=> DECIMAL <=
3: Decimal to Binary.
4: Decimal to Hexa-Decimal.

=> HEXA-DECIMAL <=
5: Hexa-Decimal to Binary.
6: Hexa-Decimal to Decimal.

ENTER YOUR CHOICE: 2

***BINARY TO HEXA-DECIMAL***

Enter the Number in Binary form (0s & 1s): 10001

Equivalent Hexa-Decimal Number : 11
```



```
DO YOU WANT TO CONTINUE = (1/0) :
1
                >>>>>> CHOOSE THE CONVERSION <<<<<<

=> BINARY <=
1: Binary to Decimal.
2: Binary to Hexa-Decimal.

=> DECIMAL <=
3: Decimal to Binary.
4: Decimal to Hexa-Decimal.

=> HEXA-DECIMAL <=
5: Hexa-Decimal to Binary.
6: Hexa-Decimal to Decimal.

ENTER YOUR CHOICE: 5

***HEXA-DECIMAL TO BINARY***

Enter the Number in Hexa-Decimal form: AB

Equivalent Binary Number : 10101011

DO YOU WANT TO CONTINUE = (1/0) :
0
                                      *
                                     ***
                                    *****
                                     ***
```

TASK 3

Description:

The topics we covered in this program is:

Control Structure,

If selection statement,

switch Multiple selection statement,

while iteration Statement,

Counter Control iteration,

This program is simple temperature converter.

There is choice option for each conversion, if you want conversion Celsius to Fahrenheit the enter 1 and so on.

Enter 0 to Quit or ending the program

Enter 1. Farhenheit To Celsius

Enter 2. Celsuis To Frahenheit

Enter 3. Celsuis To Kelvin

Enter 4. Kelvin To Celsuis

If user Enter 0, it will quit program.

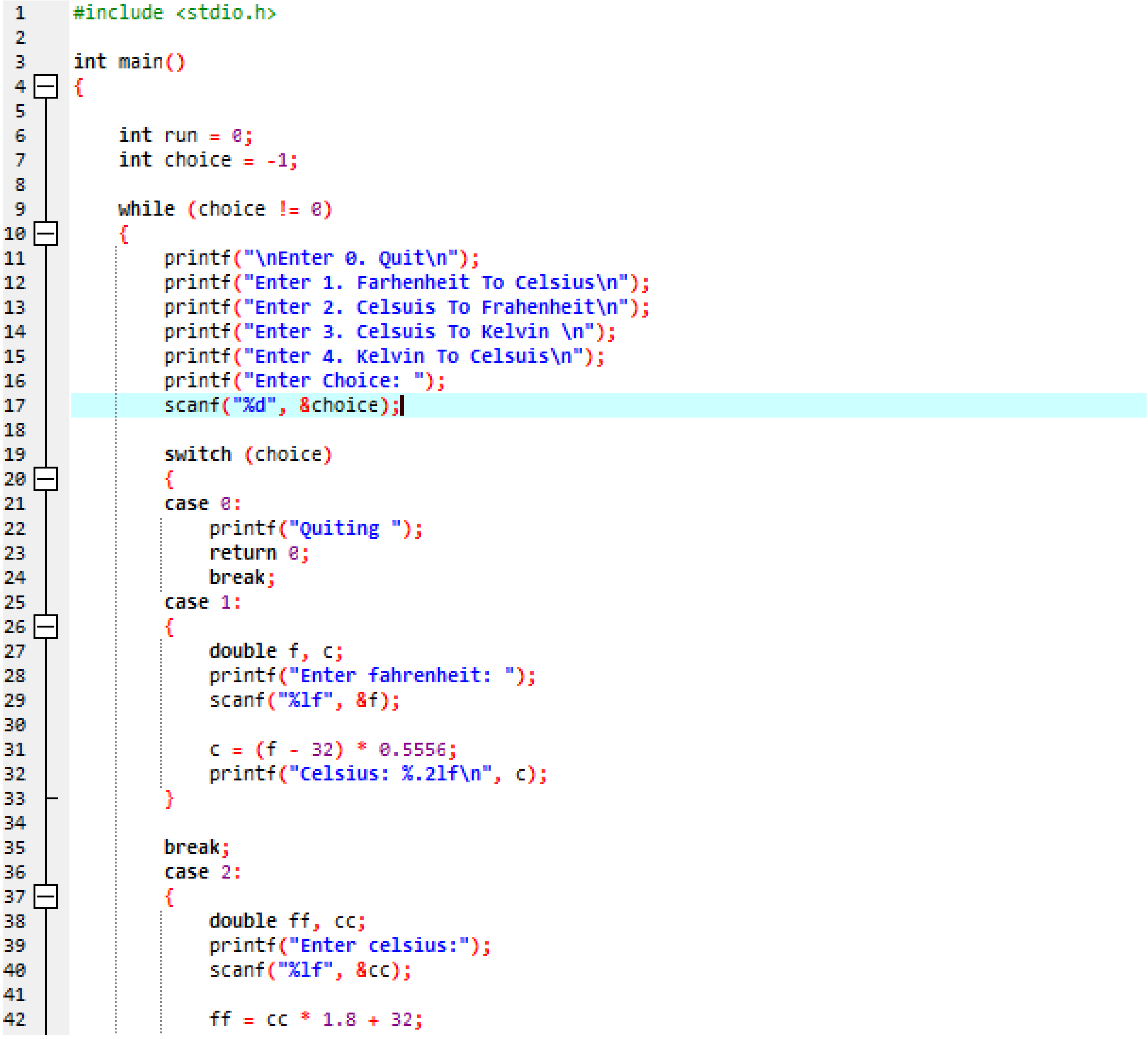
If user Enter 1, it will ask for Fahrenheit temperature and print temperature in Celsius.

If user Enter 2, it will ask for Celsius temperature and print temperature in farhenheit

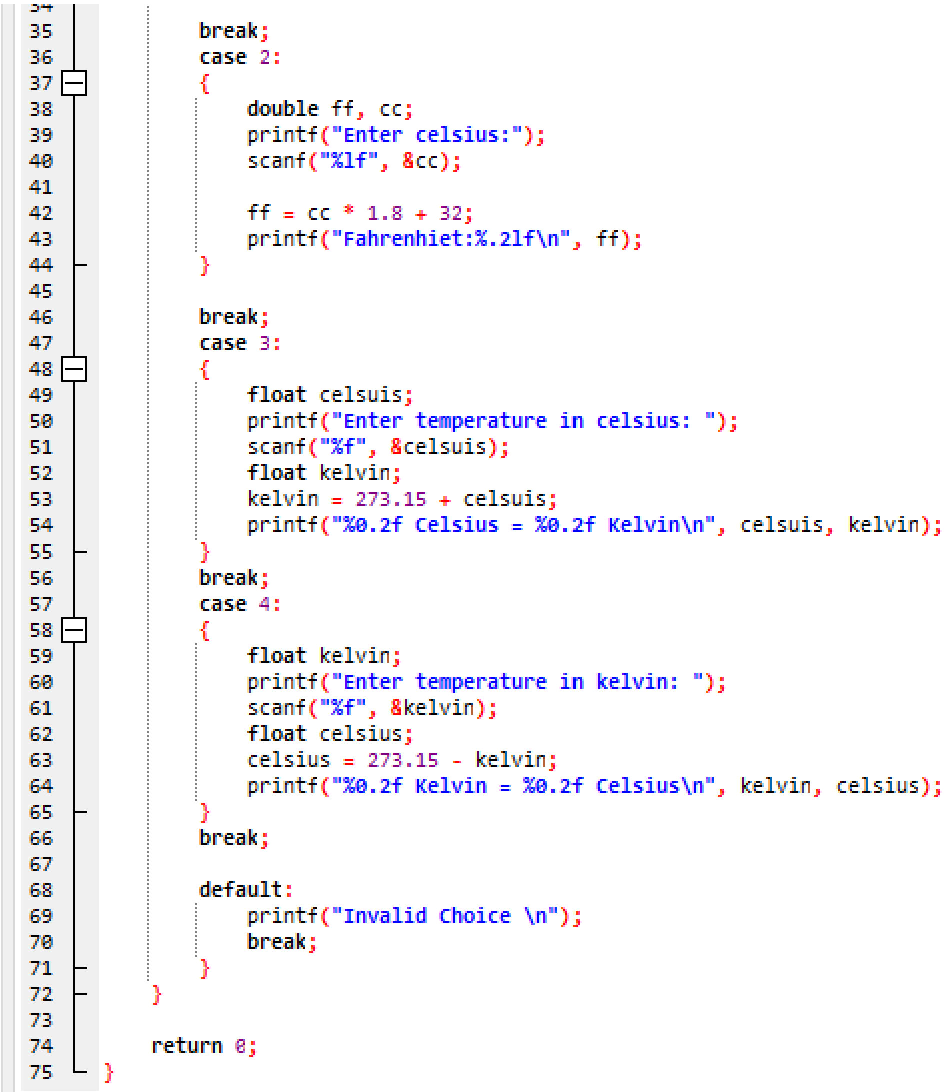
If user Enter 3, it will ask for celsius temperature and print temperature in kelvin.

If user Enter 4, it will ask for kelvin temperature and print temperature in Celsius

Code:

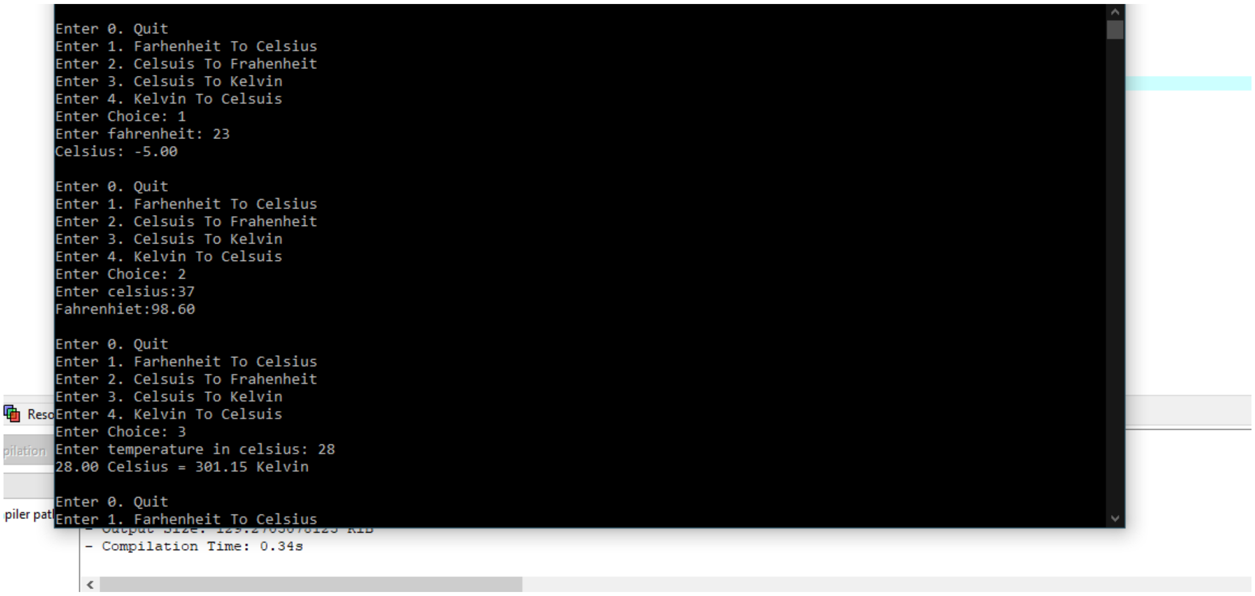


```c
#include <stdio.h>

int main()
{

    int run = 0;
    int choice = -1;

    while (choice != 0)
    {
        printf("\nEnter 0. Quit\n");
        printf("Enter 1. Farhenheit To Celsius\n");
        printf("Enter 2. Celsuis To Frahenheit\n");
        printf("Enter 3. Celsuis To Kelvin \n");
        printf("Enter 4. Kelvin To Celsuis\n");
        printf("Enter Choice: ");
        scanf("%d", &choice);

        switch (choice)
        {
        case 0:
            printf("Quiting ");
            return 0;
            break;
        case 1:
        {
            double f, c;
            printf("Enter fahrenheit: ");
            scanf("%lf", &f);

            c = (f - 32) * 0.5556;
            printf("Celsius: %.2lf\n", c);
        }

        break;
        case 2:
        {
            double ff, cc;
            printf("Enter celsius:");
            scanf("%lf", &cc);

            ff = cc * 1.8 + 32;
```



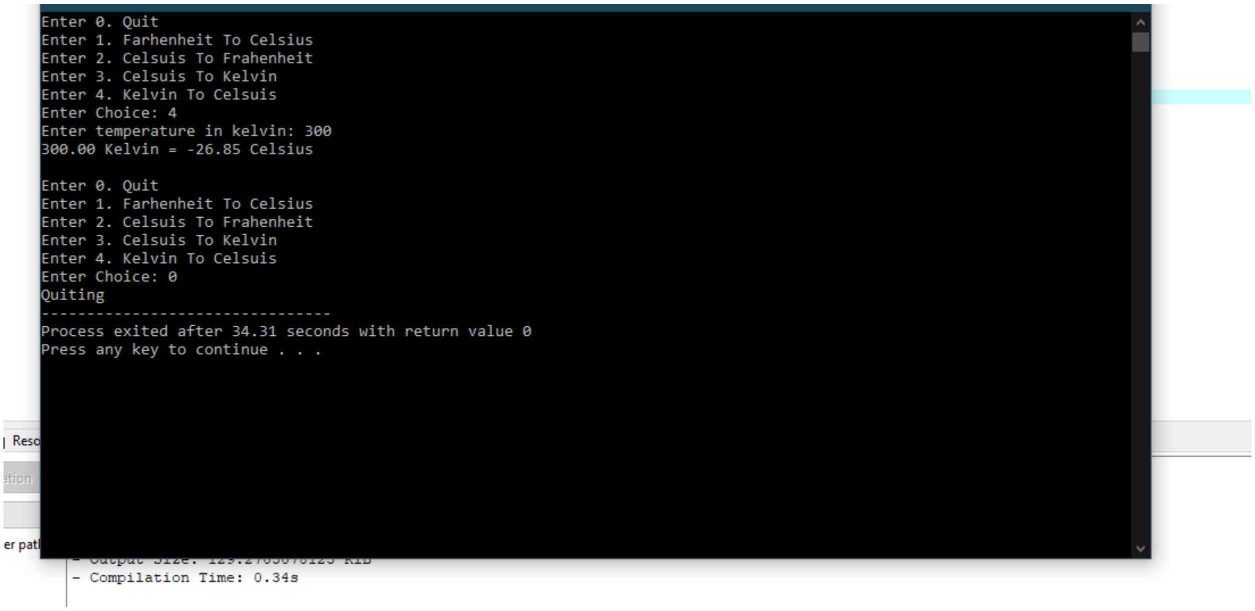
```
        break;
        case 2:
        {
            double ff, cc;
            printf("Enter celsius:");
            scanf("%lf", &cc);

            ff = cc * 1.8 + 32;
            printf("Fahrenhiet:%.2lf\n", ff);
        }

        break;
        case 3:
        {
            float celsuis;
            printf("Enter temperature in celsius: ");
            scanf("%f", &celsuis);
            float kelvin;
            kelvin = 273.15 + celsuis;
            printf("%0.2f Celsius = %0.2f Kelvin\n", celsuis, kelvin);
        }
        break;
        case 4:
        {
            float kelvin;
            printf("Enter temperature in kelvin: ");
            scanf("%f", &kelvin);
            float celsius;
            celsius = 273.15 - kelvin;
            printf("%0.2f Kelvin = %0.2f Celsius\n", kelvin, celsius);
        }
        break;

        default:
            printf("Invalid Choice \n");
            break;
        }
    }

    return 0;
}
```

Output:



```
Enter 0. Quit
Enter 1. Farhenheit To Celsius
Enter 2. Celsuis To Frahenheit
Enter 3. Celsuis To Kelvin
Enter 4. Kelvin To Celsuis
Enter Choice: 1
Enter fahrenheit: 23
Celsius: -5.00

Enter 0. Quit
Enter 1. Farhenheit To Celsius
Enter 2. Celsuis To Frahenheit
Enter 3. Celsuis To Kelvin
Enter 4. Kelvin To Celsuis
Enter Choice: 2
Enter celsius:37
Fahrenhiet:98.60

Enter 0. Quit
Enter 1. Farhenheit To Celsius
Enter 2. Celsuis To Frahenheit
Enter 3. Celsuis To Kelvin
Enter 4. Kelvin To Celsuis
Enter Choice: 3
Enter temperature in celsius: 28
28.00 Celsius = 301.15 Kelvin

Enter 0. Quit
Enter 1. Farhenheit To Celsius
```

```
- Compilation Time: 0.34s
```



```
Enter 0. Quit
Enter 1. Farhenheit To Celsius
Enter 2. Celsuis To Frahenheit
Enter 3. Celsuis To Kelvin
Enter 4. Kelvin To Celsuis
Enter Choice: 4
Enter temperature in kelvin: 300
300.00 Kelvin = -26.85 Celsius

Enter 0. Quit
Enter 1. Farhenheit To Celsius
Enter 2. Celsuis To Frahenheit
Enter 3. Celsuis To Kelvin
Enter 4. Kelvin To Celsuis
Enter Choice: 0
Quiting
--------------------------------
Process exited after 34.31 seconds with return value 0
Press any key to continue . . .
```

```
- Compilation Time: 0.34s
```

Task4

Areas

Description:

The topics we covered in this program is:

Control Structure,

If selection statement,

If else... selection statement,

Counter Control iteration,

For iteration statement,

This program takes an arithmetic choice 1, 2, 3, 4 and 5

By choice of 1, it will ask for radius of a circle and find area of that circle.

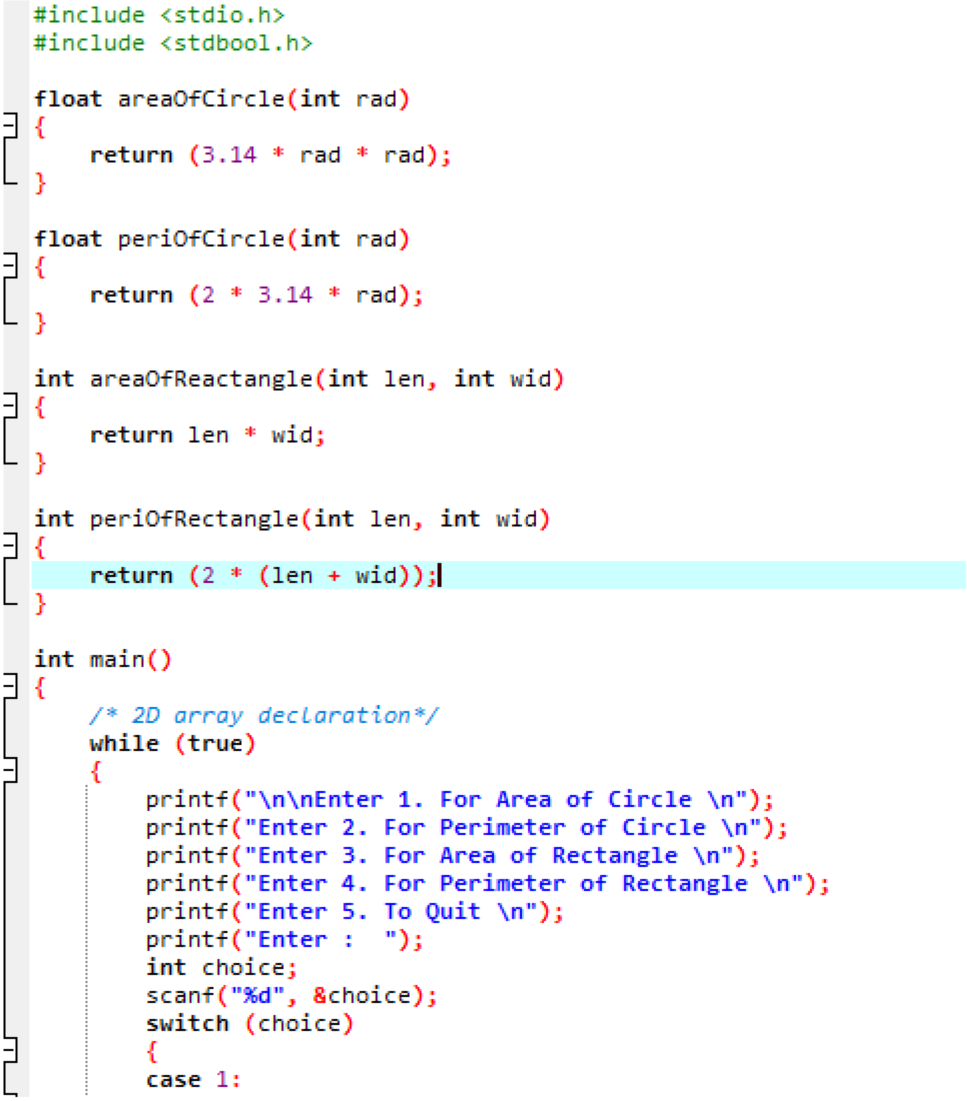
By choice of 2, it will ask for radius of circle and find out perimeter of circle.

By choice of 3, it will ask for length and width of rectangle and find out area of rectangle.

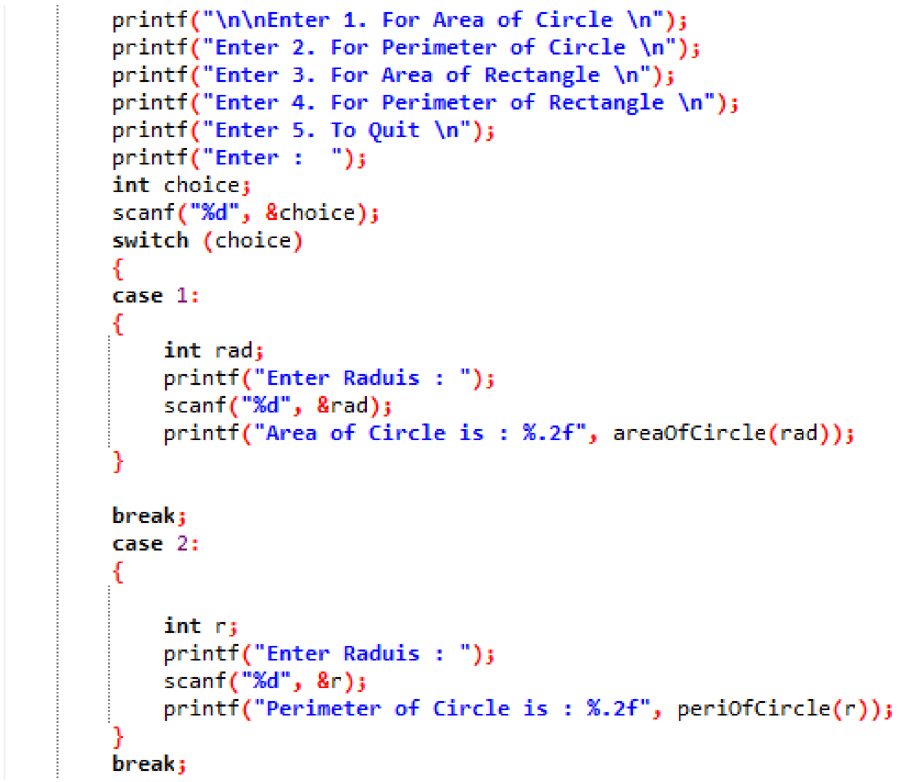
By choice of 4, it will ask for length and width of rectangle and find out perimeter of rectangle.

At the end it has choice of 5 to quit program.

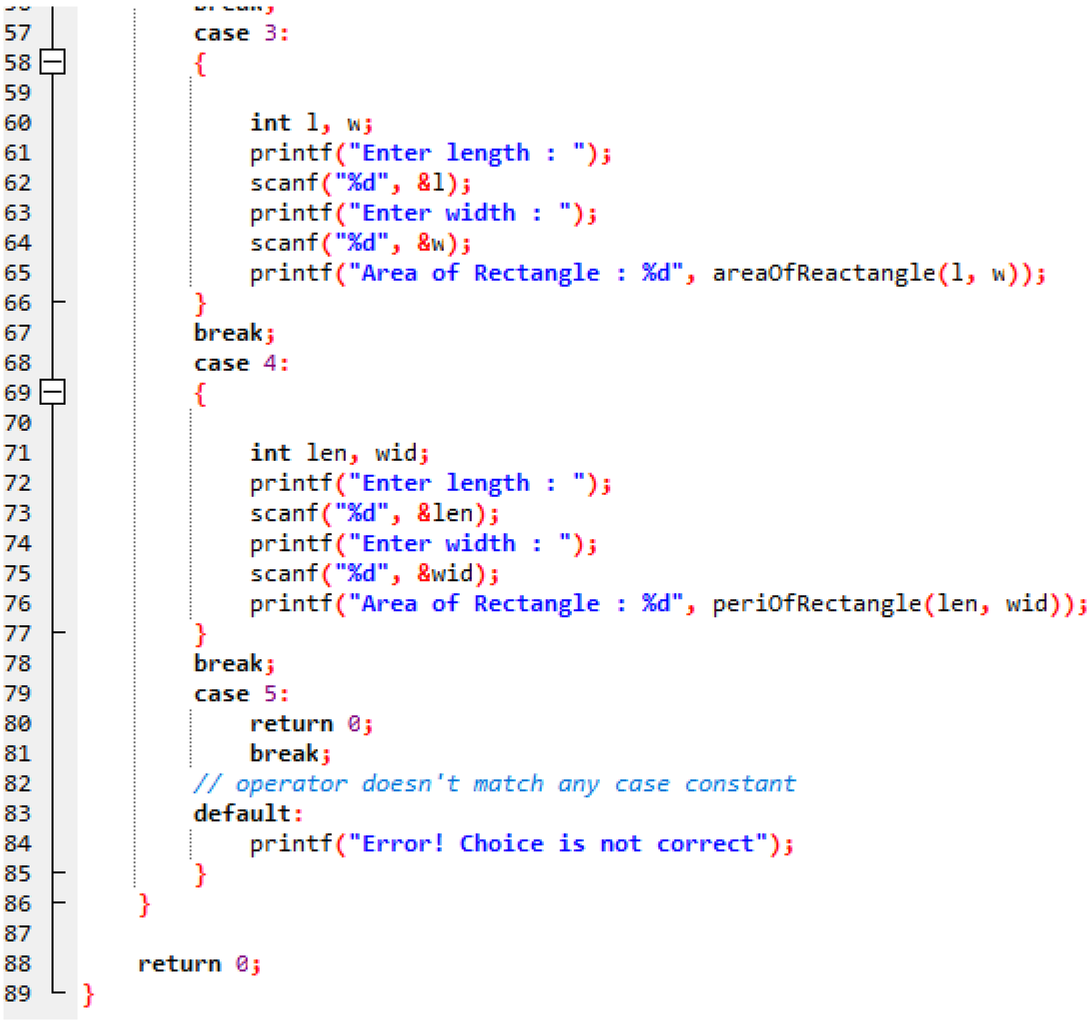
Code:



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

float areaOfCircle(int rad)
{
    return (3.14 * rad * rad);
}

float periOfCircle(int rad)
{
    return (2 * 3.14 * rad);
}

int areaOfReactangle(int len, int wid)
{
    return len * wid;
}

int periOfRectangle(int len, int wid)
{
    return (2 * (len + wid));
}

int main()
{
    /* 2D array declaration*/
    while (true)
    {
        printf("\n\nEnter 1. For Area of Circle \n");
        printf("Enter 2. For Perimeter of Circle \n");
        printf("Enter 3. For Area of Rectangle \n");
        printf("Enter 4. For Perimeter of Rectangle \n");
        printf("Enter 5. To Quit \n");
        printf("Enter :  ");
        int choice;
        scanf("%d", &choice);
        switch (choice)
        {
        case 1:
```

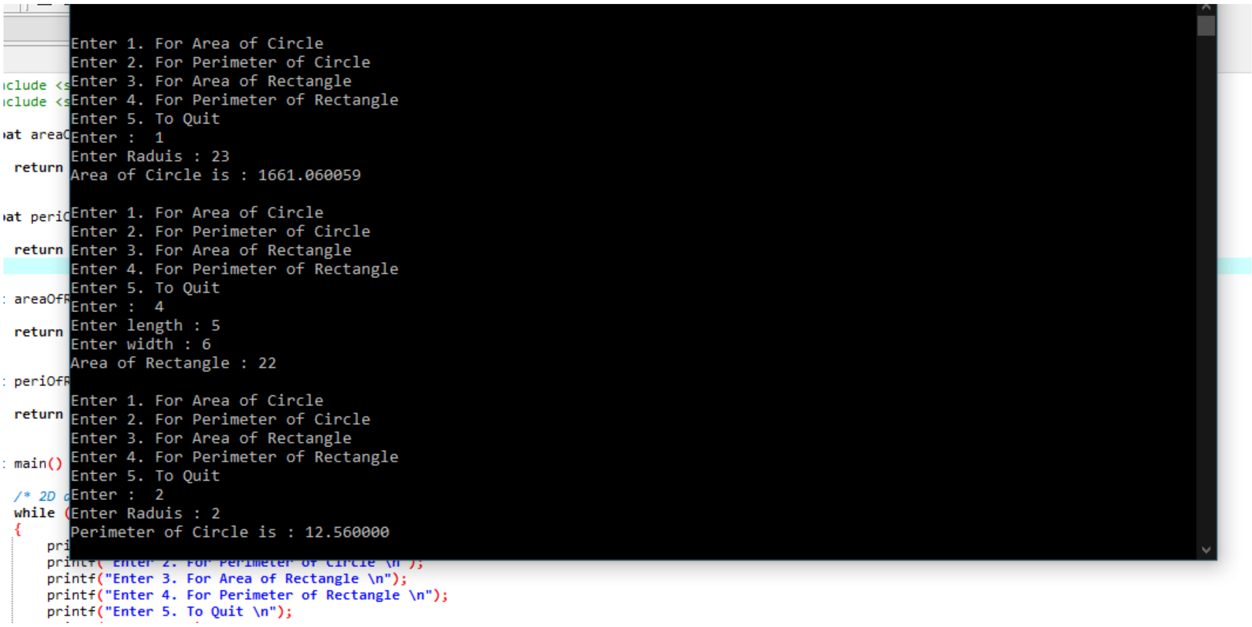


```
printf("\n\nEnter 1. For Area of Circle \n");
printf("Enter 2. For Perimeter of Circle \n");
printf("Enter 3. For Area of Rectangle \n");
printf("Enter 4. For Perimeter of Rectangle \n");
printf("Enter 5. To Quit \n");
printf("Enter :  ");
int choice;
scanf("%d", &choice);
switch (choice)
{
case 1:
{
    int rad;
    printf("Enter Raduis : ");
    scanf("%d", &rad);
    printf("Area of Circle is : %.2f", areaOfCircle(rad));
}

break;
case 2:
{

    int r;
    printf("Enter Raduis : ");
    scanf("%d", &r);
    printf("Perimeter of Circle is : %.2f", periOfCircle(r));
}
break;
```



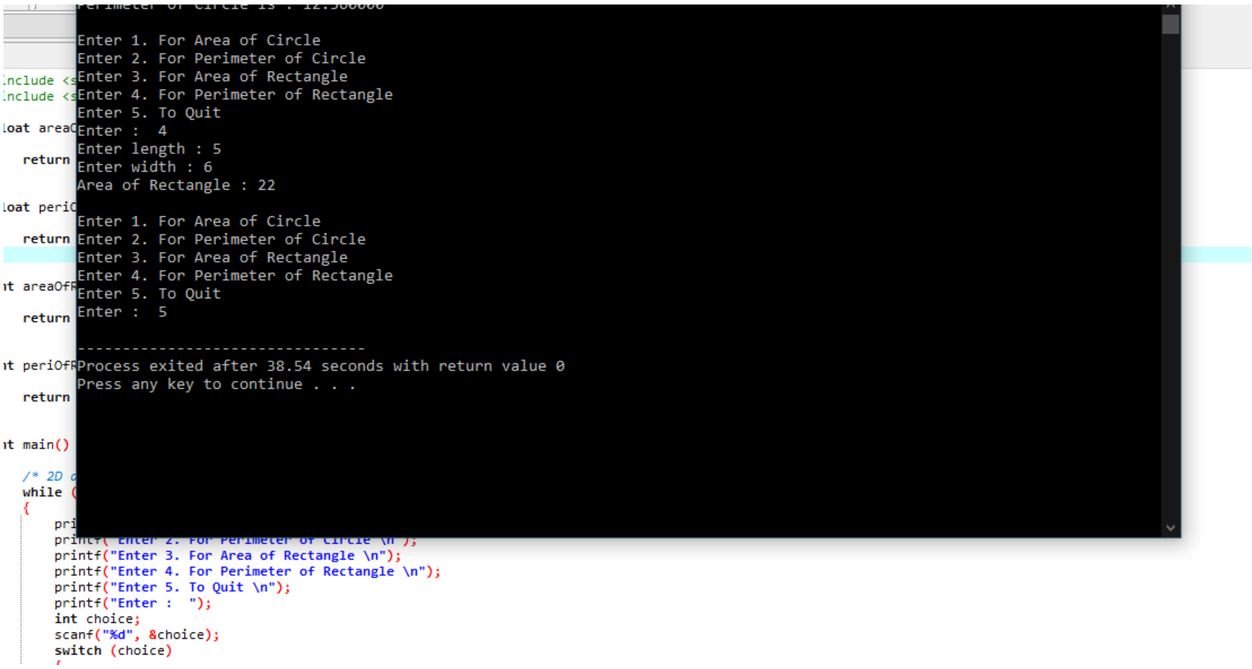
```
        break;
        case 3:
        {

            int l, w;
            printf("Enter length : ");
            scanf("%d", &l);
            printf("Enter width : ");
            scanf("%d", &w);
            printf("Area of Rectangle : %d", areaOfReactangle(l, w));
        }
        break;
        case 4:
        {

            int len, wid;
            printf("Enter length : ");
            scanf("%d", &len);
            printf("Enter width : ");
            scanf("%d", &wid);
            printf("Area of Rectangle : %d", periOfRectangle(len, wid));
        }
        break;
        case 5:
            return 0;
            break;
        // operator doesn't match any case constant
        default:
            printf("Error! Choice is not correct");
        }
    }

    return 0;
}
```

OUTPUT:



```
Enter 1. For Area of Circle
Enter 2. For Perimeter of Circle
Enter 3. For Area of Rectangle
Enter 4. For Perimeter of Rectangle
Enter 5. To Quit
Enter :  1
Enter Raduis : 23
Area of Circle is : 1661.060059

Enter 1. For Area of Circle
Enter 2. For Perimeter of Circle
Enter 3. For Area of Rectangle
Enter 4. For Perimeter of Rectangle
Enter 5. To Quit
Enter :  4
Enter length : 5
Enter width : 6
Area of Rectangle : 22

Enter 1. For Area of Circle
Enter 2. For Perimeter of Circle
Enter 3. For Area of Rectangle
Enter 4. For Perimeter of Rectangle
Enter 5. To Quit
Enter :  2
Enter Raduis : 2
Perimeter of Circle is : 12.560000
```

```
    printf("Enter 3. For Area of Rectangle \n");
    printf("Enter 4. For Perimeter of Rectangle \n");
    printf("Enter 5. To Quit \n");
```



```
Perimeter of Circle is : 12.560000

Enter 1. For Area of Circle
Enter 2. For Perimeter of Circle
Enter 3. For Area of Rectangle
Enter 4. For Perimeter of Rectangle
Enter 5. To Quit
Enter :  4
Enter length : 5
Enter width : 6
Area of Rectangle : 22

Enter 1. For Area of Circle
Enter 2. For Perimeter of Circle
Enter 3. For Area of Rectangle
Enter 4. For Perimeter of Rectangle
Enter 5. To Quit
Enter :  5

--------------------------------
Process exited after 38.54 seconds with return value 0
Press any key to continue . . .
```

```
    printf("Enter 3. For Area of Rectangle \n");
    printf("Enter 4. For Perimeter of Rectangle \n");
    printf("Enter 5. To Quit \n");
    printf("Enter :  ");
    int choice;
    scanf("%d", &choice);
    switch (choice)
```