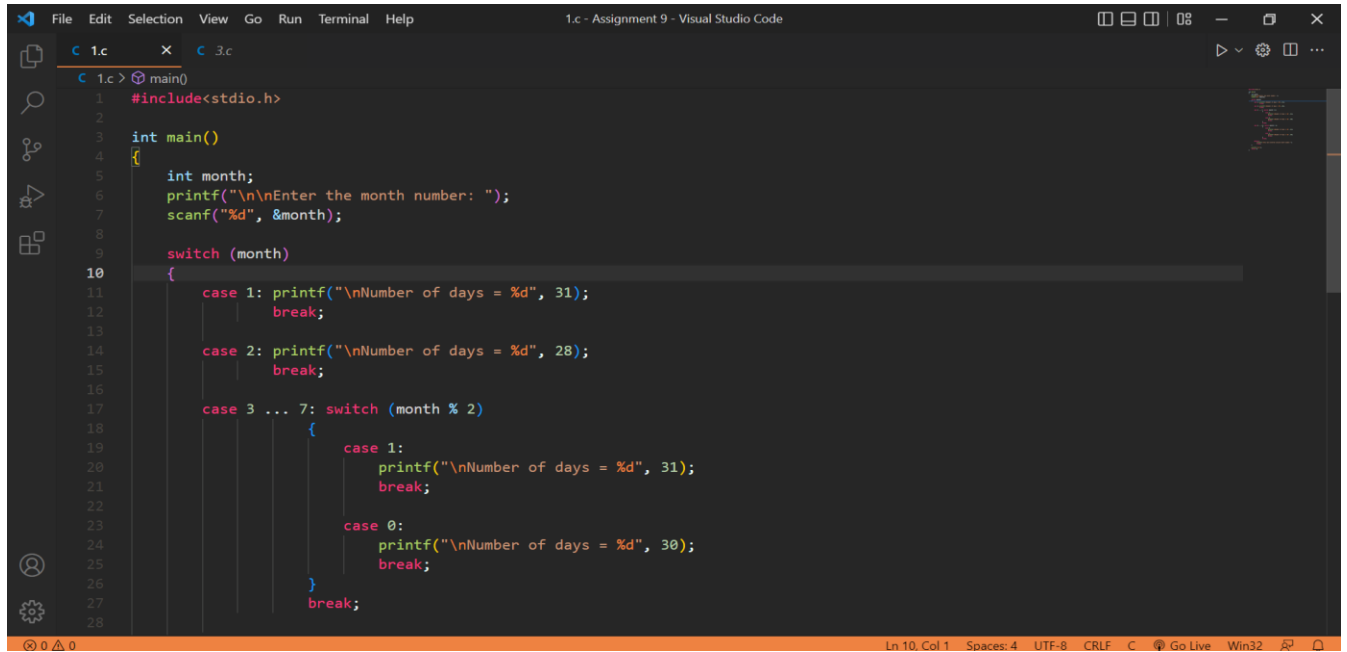
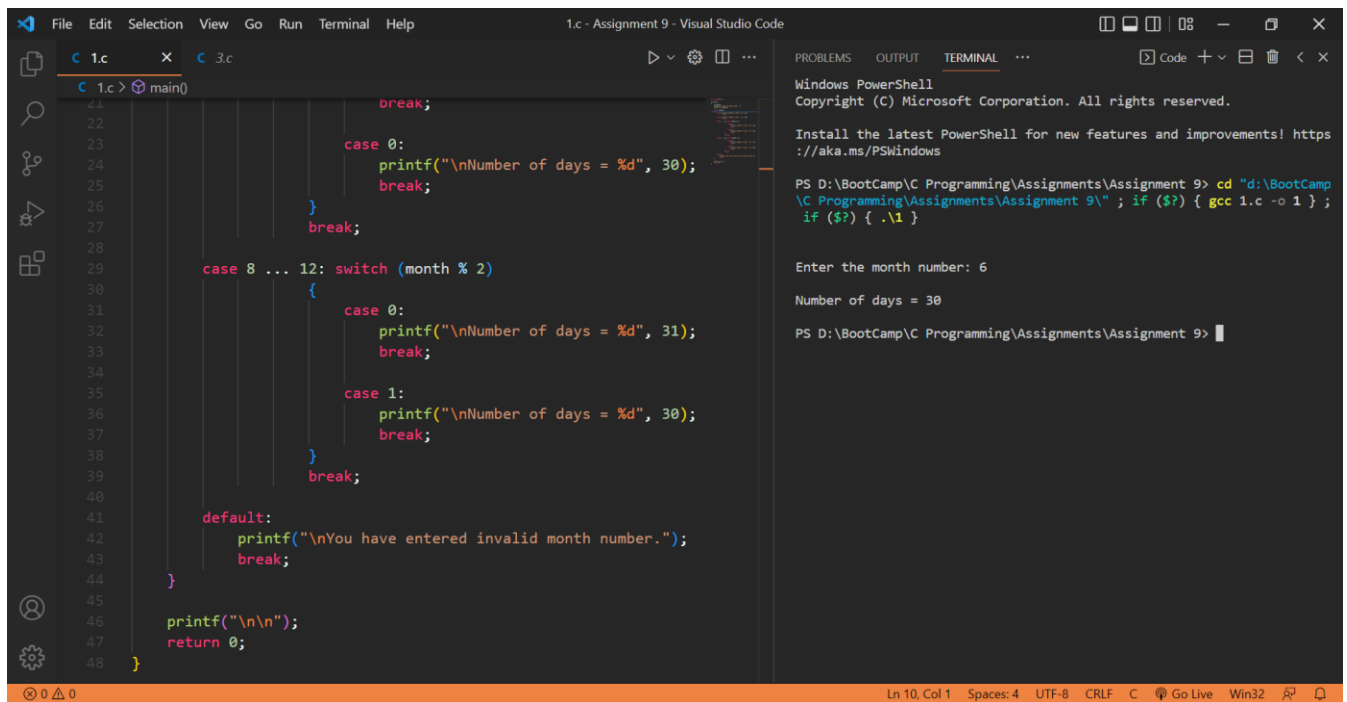


# ASSIGNMENT – 09

Q1.



```
1.c - Assignment 9 - Visual Studio Code
1.c 1.c x 3.c
1.c > main()
1 #include<stdio.h>
2
3 int main()
4 {
5     int month;
6     printf("\nEnter the month number: ");
7     scanf("%d", &month);
8
9     switch (month)
10    {
11        case 1: printf("\nNumber of days = %d", 31);
12                break;
13
14        case 2: printf("\nNumber of days = %d", 28);
15                break;
16
17        case 3 ... 7: switch (month % 2)
18                    {
19                        case 1:
20                            printf("\nNumber of days = %d", 31);
21                            break;
22
23                        case 0:
24                            printf("\nNumber of days = %d", 30);
25                            break;
26                    }
27        break;
28    }
```



```
21 break;
22
23 case 0:
24     printf("\nNumber of days = %d", 30);
25     break;
26 }
27 break;
28
29 case 8 ... 12: switch (month % 2)
30                 {
31                     case 0:
32                         printf("\nNumber of days = %d", 31);
33                         break;
34
35                     case 1:
36                         printf("\nNumber of days = %d", 30);
37                         break;
38                 }
39 break;
40
41 default:
42     printf("\nYou have entered invalid month number.");
43     break;
44 }
45
46 printf("\n\n");
47 return 0;
48 }
```

PROBLEMS OUTPUT TERMINAL ...

Windows PowerShell  
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! <https://aka.ms/PSWindows>

PS D:\BootCamp\C Programming\Assignments\Assignment 9> cd "d:\BootCamp\C Programming\Assignments\Assignment 9\"; if (\$?) { gcc 1.c -o 1 }  
if (\$?) { .\1 }

Enter the month number: 6

Number of days = 30

PS D:\BootCamp\C Programming\Assignments\Assignment 9> |

# Q2.

```
1 #include <stdio.h>
2 #include <stdlib.h>
3 int main()
4 {
5     char ch;
6     int a, b;
7
8     while (1)
9     {
10         printf("\n\n#####");
11         printf("\n\nWELCOME TO THE MENU DRIVEN PROGRAMME\n\n");
12         printf("\na. ADDITION");
13         printf("\nb. SUBTRACTION");
14         printf("\nc. MULTIPLICATION");
15         printf("\nd. DIVISION");
16         printf("\ne. EXIT\n\n");
17
18         printf("\nEnter your choice: ");
19         fflush(stdin);
20         scanf("%c", &ch);
21
22         switch (ch)
23         {
24             case 'a':
25                 printf("\nEnter first number: ");
26                 scanf("%d", &a);
27                 printf("\nEnter second number: ");
28                 scanf("%d", &b);
29
30                 printf("\nThe addition of %d and %d is: %d", a, b, a + b);
31                 break;
32
33             case 'b':
34                 printf("\nEnter first number: ");
35                 scanf("%d", &a);
36                 printf("\nEnter second number: ");
37                 scanf("%d", &b);
```

ka.ms/PSWindows

PS D:\BootCamp\C Programming\Assignments\Assignment 9> cd "d:\BootCamp\C Programming\Assignments\Assignment 9\"; if (\$?) { gcc 2.c -o 2 }; if (\$?) { .\2 }

#####

WELCOME TO THE MENU DRIVEN PROGRAMME

a. ADDITION  
b. SUBTRACTION  
c. MULTIPLICATION  
d. DIVISION  
e. EXIT

Enter your choice: a

Enter first number: 34

Enter second number: 5

The addition of 34 and 5 is: 39

#####

WELCOME TO THE MENU DRIVEN PROGRAMME

a. ADDITION  
b. SUBTRACTION  
c. MULTIPLICATION  
d. DIVISION  
e. EXIT

Enter your choice: █

```
38         printf("\nEnter second number: ");
39         scanf("%d", &b);
40
41         printf("\nThe subtraction of %d and %d is: %d", a, b, a - b);
42         break;
43
44     case 'c':
45         printf("\nEnter first number: ");
46         scanf("%d", &a);
47         printf("\nEnter second number: ");
48         scanf("%d", &b);
49
50         printf("\nThe product of %d and %d is: %d", a, b, a * b);
51         break;
52
53     case 'd':
54         printf("\nEnter first number: ");
55         scanf("%d", &a);
56         printf("\nEnter second number: ");
57         scanf("%d", &b);
58
59         printf("\nThe quotient of %d and %d is: %d", a, b, a / b);
60         break;
61
62     case 'e':
63         printf("\nThank you so much for using this programme.");
64         exit(0);
65
66     default:
67         printf("\nSorry! You have entered an invalid choice.");
68         break;
69 }
70
71 printf("\n\n");
72 return 0;
```

Enter second number: 5

The addition of 34 and 5 is: 39

#####

WELCOME TO THE MENU DRIVEN PROGRAMME

a. ADDITION  
b. SUBTRACTION  
c. MULTIPLICATION  
d. DIVISION  
e. EXIT

Enter your choice: c

Enter first number: 24

Enter second number: 5

The product of 24 and 5 is: 120

#####

WELCOME TO THE MENU DRIVEN PROGRAMME

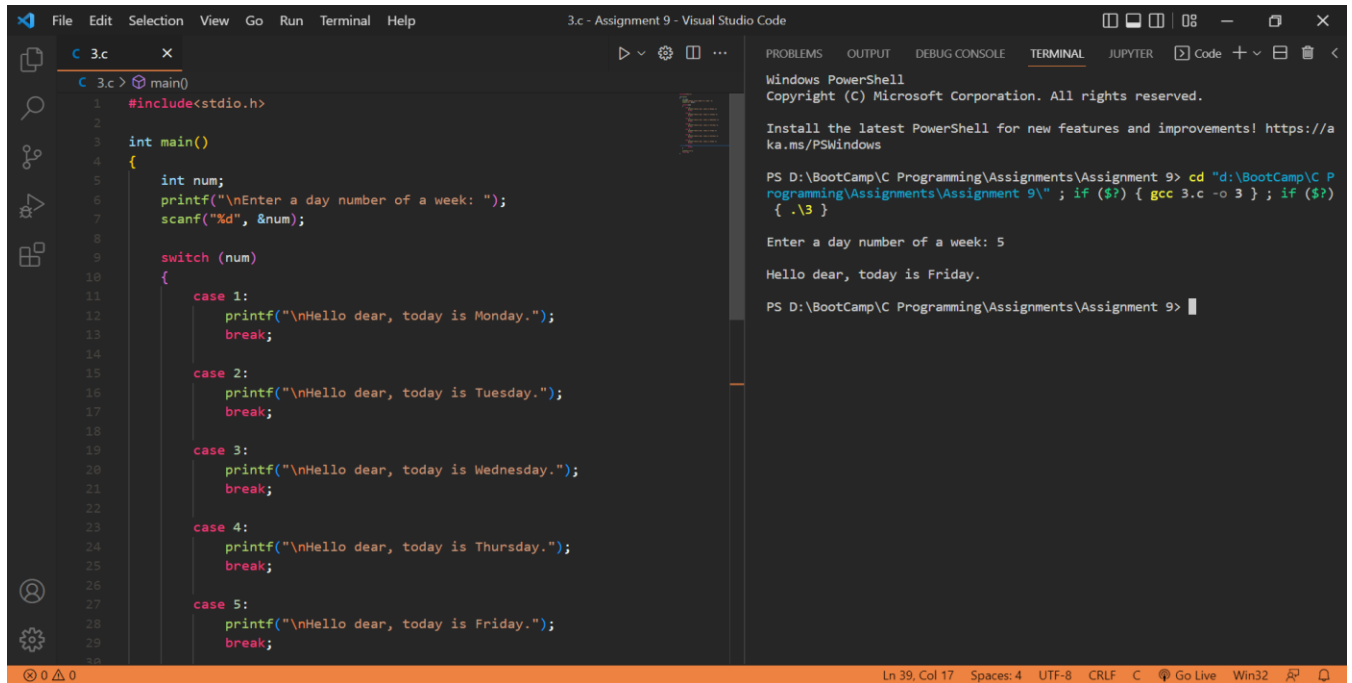
a. ADDITION  
b. SUBTRACTION  
c. MULTIPLICATION  
d. DIVISION  
e. EXIT

Enter your choice: e

Thank you so much for using this programme.

PS D:\BootCamp\C Programming\Assignments\Assignment 9> █

### Q3.



```
File Edit Selection View Go Run Terminal Help
3.c - Assignment 9 - Visual Studio Code

C 3.c > main()
1 #include<stdio.h>
2
3 int main()
4 {
5     int num;
6     printf("\nEnter a day number of a week: ");
7     scanf("%d", &num);
8
9     switch (num)
10    {
11        case 1:
12            printf("\nHello dear, today is Monday.");
13            break;
14
15        case 2:
16            printf("\nHello dear, today is Tuesday.");
17            break;
18
19        case 3:
20            printf("\nHello dear, today is Wednesday.");
21            break;
22
23        case 4:
24            printf("\nHello dear, today is Thursday.");
25            break;
26
27        case 5:
28            printf("\nHello dear, today is Friday.");
29            break;
30    }
31
32    printf("\n\n");
33    return 0;
34 }
```

Windows PowerShell  
Copyright (C) Microsoft Corporation. All rights reserved.

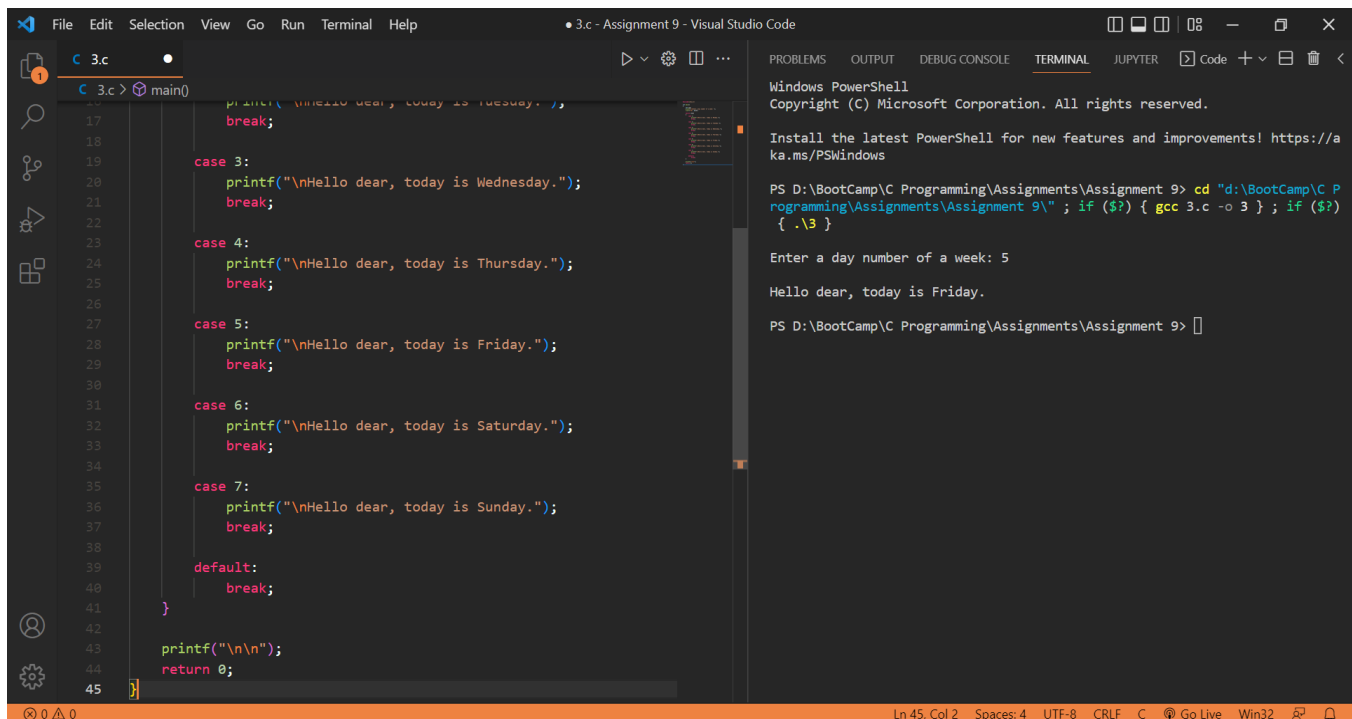
Install the latest PowerShell for new features and improvements! <https://aka.ms/PSWindows>

PS D:\BootCamp\C Programming\Assignments\Assignment 9> cd "d:\BootCamp\C Programming\Assignments\Assignment 9\" ; if (\$?) { gcc 3.c -o 3 } ; if (\$?) { .\3 }

Enter a day number of a week: 5

Hello dear, today is Friday.

PS D:\BootCamp\C Programming\Assignments\Assignment 9>



```
File Edit Selection View Go Run Terminal Help
3.c - Assignment 9 - Visual Studio Code

C 3.c > main()
17 printf("\nHello dear, today is Tuesday.");
18 break;
19
20 case 3:
21     printf("\nHello dear, today is Wednesday.");
22     break;
23
24 case 4:
25     printf("\nHello dear, today is Thursday.");
26     break;
27
28 case 5:
29     printf("\nHello dear, today is Friday.");
30     break;
31
32 case 6:
33     printf("\nHello dear, today is Saturday.");
34     break;
35
36 case 7:
37     printf("\nHello dear, today is Sunday.");
38     break;
39
40 default:
41     break;
42
43 }
44
45 printf("\n\n");
46 return 0;
47 }
```

Windows PowerShell  
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! <https://aka.ms/PSWindows>

PS D:\BootCamp\C Programming\Assignments\Assignment 9> cd "d:\BootCamp\C Programming\Assignments\Assignment 9\" ; if (\$?) { gcc 3.c -o 3 } ; if (\$?) { .\3 }

Enter a day number of a week: 5

Hello dear, today is Friday.

PS D:\BootCamp\C Programming\Assignments\Assignment 9>

# Q4.

The screenshot shows a Visual Studio Code editor with a C file named `4.c`. The code is a menu-driven program to verify the category of a triangle based on three side lengths (a, b, c). The menu options are: a. ISOSCELES TRIANGLE, b. RIGHT ANGLED TRIANGLE, c. EQUILATERAL TRIANGLE, and d. EXIT. The program uses `printf` and `scanf` for input and output. It includes a `while` loop to keep the menu running until the user chooses to exit. The terminal output shows the program running, displaying the menu, and the user entering 'a' to check for an isosceles triangle. The program prompts for three numbers: 23, 34, and 23, and then outputs "23, 34 and 23 are the lengths of an isosceles triangle".

```
#include<stdio.h>
#include<stdlib.h>
int main()
{
    int a, b, c;
    char ch;

    while (1)
    {
        printf("\n\nMENU DRIVEN PROGRAMME TO VERIFY THE TRIANGLE LIES IN WHICH CATEGORY:\n");
        printf("\na. ISOSCELES TRIANGLE");
        printf("\nb. RIGHT ANGLED TRIANGLE");
        printf("\nc. EQUILATERAL TRIANGLE");
        printf("\nd. EXIT\n");

        printf("\nEnter your choice: ");
        fflush(stdin);
        scanf("%c", &ch);

        switch (ch)
        {
            case 'a':
                printf("\nEnter the first number: ");
                scanf("%d", &a);
                printf("\nEnter the second number: ");
                scanf("%d", &b);
                printf("\nEnter the third number: ");
                scanf("%d", &c);

                if (a == b || b == c || c == a)
                    printf("\n%d, %d and %d are the lengths of an isosceles triangle", a, b, c);
            // ... (other cases) ...
        }
    }
}
```

Windows PowerShell  
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! <https://aka.ms/PSWindows>

PS D:\BootCamp\C Programming\Assignments\Assignment 9> cd "d:\BootCamp\C Programming\Assignments\Assignment 9\" ; if (\$?) { gcc 4.c -o 4 } ; if (\$?) { .\4 }

MENU DRIVEN PROGRAMME TO VERIFY THE TRIANGLE LIES IN WHICH CATEGORY:

a. ISOSCELES TRIANGLE  
b. RIGHT ANGLED TRIANGLE  
c. EQUILATERAL TRIANGLE  
d. EXIT

Enter your choice: a

Enter the first number: 23

Enter the second number: 34

Enter the third number: 23

23, 34 and 23 are the lengths of an isosceles triangle

MENU DRIVEN PROGRAMME TO VERIFY THE TRIANGLE LIES IN WHICH CATEGORY:

a. ISOSCELES TRIANGLE  
b. RIGHT ANGLED TRIANGLE  
c. EQUILATERAL TRIANGLE  
d. EXIT

Enter your choice: █

This screenshot continues the previous one, showing the program's logic for checking right-angled triangles. The code includes a `case 'b':` block that prompts the user for three numbers and then checks if they satisfy the Pythagorean theorem:  $a^2 + b^2 = c^2$  (or any permutation). If true, it outputs "5, 13 and 12 are the lengths of a right angled triangle". The terminal output shows the user entering 'b' and providing the numbers 5, 13, and 12, which the program correctly identifies as a right-angled triangle.

```
scanf("%d", &b);
printf("\nEnter the third number: ");
scanf("%d", &c);

if (a == b || b == c || c == a)
    printf("\n%d, %d and %d are the lengths of an isosceles triangle", a, b, c);
else
    printf("\n%d, %d and %d are not the lengths of an isosceles triangle", a, b, c);
break;

case 'b':
    printf("\nEnter the first number: ");
    scanf("%d", &a);
    printf("\nEnter the second number: ");
    scanf("%d", &b);
    printf("\nEnter the third number: ");
    scanf("%d", &c);

    if ((a * a == b * b + c * c) || (b * b == a * a + c * c) || (c * c == a * a + b * b))
        printf("\n%d, %d and %d are the lengths of a right angled triangle", a, b, c);
    else
        printf("\n%d, %d and %d are not the lengths of a right angled triangle", a, b, c);
break;
```

Enter your choice: a

Enter the first number: 23

Enter the second number: 34

Enter the third number: 23

23, 34 and 23 are the lengths of an isosceles triangle

MENU DRIVEN PROGRAMME TO VERIFY THE TRIANGLE LIES IN WHICH CATEGORY:

a. ISOSCELES TRIANGLE  
b. RIGHT ANGLED TRIANGLE  
c. EQUILATERAL TRIANGLE  
d. EXIT

Enter your choice: b

Enter the first number: 5

Enter the second number: 13

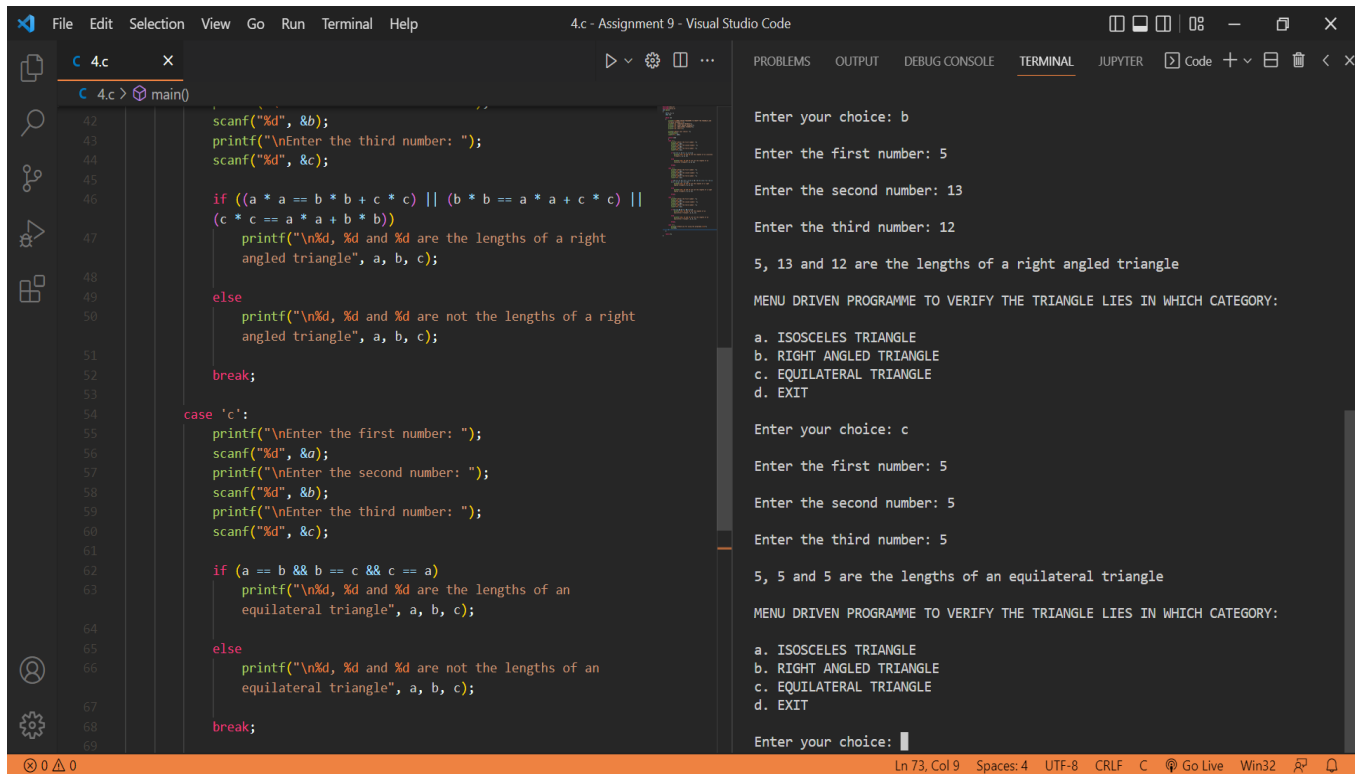
Enter the third number: 12

5, 13 and 12 are the lengths of a right angled triangle

MENU DRIVEN PROGRAMME TO VERIFY THE TRIANGLE LIES IN WHICH CATEGORY:

a. ISOSCELES TRIANGLE  
b. RIGHT ANGLED TRIANGLE  
c. EQUILATERAL TRIANGLE  
d. EXIT

Enter your choice: █



```
4.c - Assignment 9 - Visual Studio Code
C 4.c X
C 4.c > main()
42 scanf("%d", &b);
43 printf("\nEnter the third number: ");
44 scanf("%d", &c);
45
46 if ((a * a == b * b + c * c) || (b * b == a * a + c * c) ||
47     (c * c == a * a + b * b))
48     printf("\n%d, %d and %d are the lengths of a right
49     angled triangle", a, b, c);
50
51 else
52     printf("\n%d, %d and %d are not the lengths of a right
53     angled triangle", a, b, c);
54
55 break;
56
57 case 'c':
58     printf("\nEnter the first number: ");
59     scanf("%d", &a);
60     printf("\nEnter the second number: ");
61     scanf("%d", &b);
62     printf("\nEnter the third number: ");
63     scanf("%d", &c);
64
65     if (a == b && b == c && c == a)
66         printf("\n%d, %d and %d are the lengths of an
67         equilateral triangle", a, b, c);
68
69     else
70         printf("\n%d, %d and %d are not the lengths of an
71         equilateral triangle", a, b, c);
72
73     break;
74
75 case 'd':
76     printf("\nThank you for using the programme.\n\n");
77     exit(0);
78 }
79
80 return 0;
81 }
```

Enter your choice: b

Enter the first number: 5

Enter the second number: 13

Enter the third number: 12

5, 13 and 12 are the lengths of a right angled triangle

MENU DRIVEN PROGRAMME TO VERIFY THE TRIANGLE LIES IN WHICH CATEGORY:

a. ISOSCELES TRIANGLE  
b. RIGHT ANGLED TRIANGLE  
c. EQUILATERAL TRIANGLE  
d. EXIT

Enter your choice: c

Enter the first number: 5

Enter the second number: 5

Enter the third number: 5

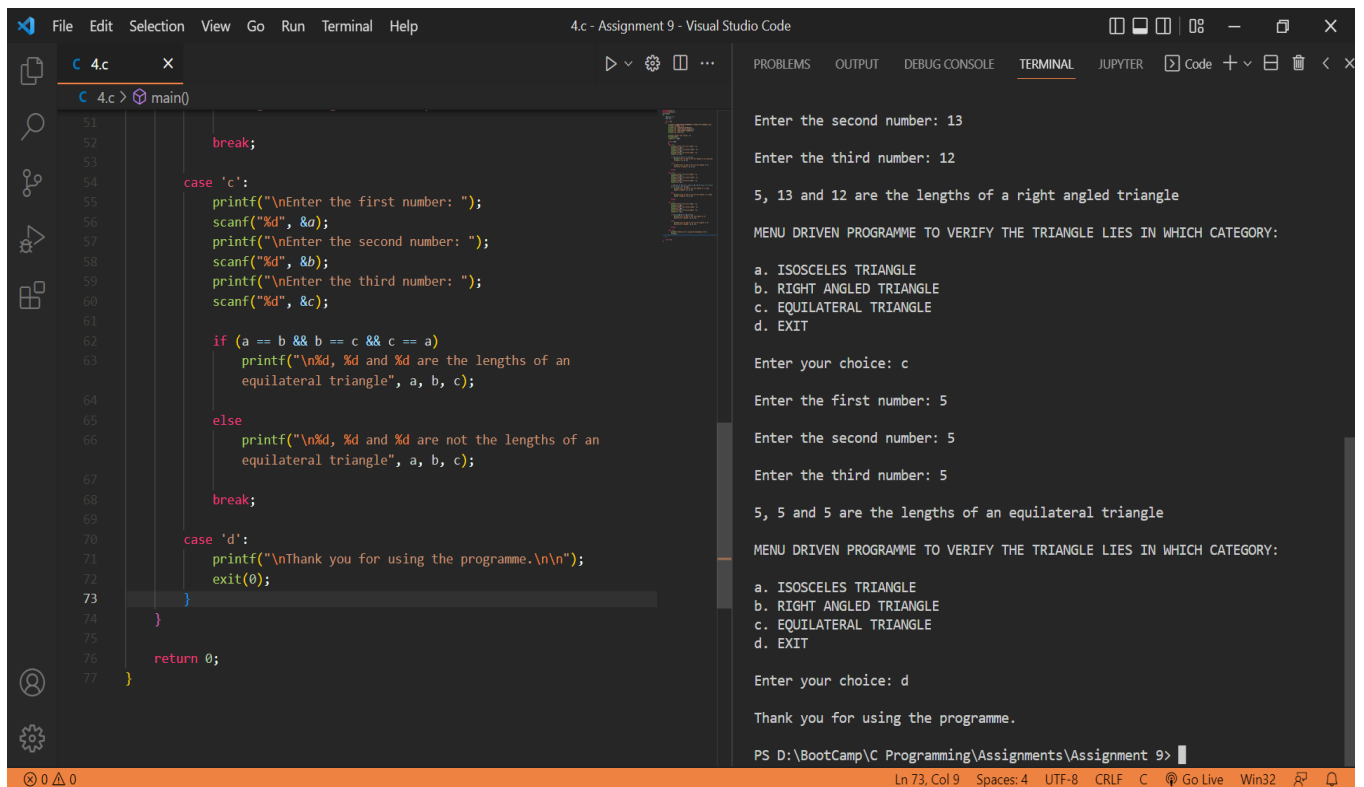
5, 5 and 5 are the lengths of an equilateral triangle

MENU DRIVEN PROGRAMME TO VERIFY THE TRIANGLE LIES IN WHICH CATEGORY:

a. ISOSCELES TRIANGLE  
b. RIGHT ANGLED TRIANGLE  
c. EQUILATERAL TRIANGLE  
d. EXIT

Enter your choice:

Ln 73, Col 9 Spaces: 4 UTF-8 CRLF C Go Live Win32



```
4.c - Assignment 9 - Visual Studio Code
C 4.c X
C 4.c > main()
51
52 break;
53
54 case 'c':
55     printf("\nEnter the first number: ");
56     scanf("%d", &a);
57     printf("\nEnter the second number: ");
58     scanf("%d", &b);
59     printf("\nEnter the third number: ");
60     scanf("%d", &c);
61
62     if (a == b && b == c && c == a)
63         printf("\n%d, %d and %d are the lengths of an
64         equilateral triangle", a, b, c);
65
66     else
67         printf("\n%d, %d and %d are not the lengths of an
68         equilateral triangle", a, b, c);
69
70     break;
71
72 case 'd':
73     printf("\nThank you for using the programme.\n\n");
74     exit(0);
75 }
76
77 return 0;
78 }
```

Enter the second number: 13

Enter the third number: 12

5, 13 and 12 are the lengths of a right angled triangle

MENU DRIVEN PROGRAMME TO VERIFY THE TRIANGLE LIES IN WHICH CATEGORY:

a. ISOSCELES TRIANGLE  
b. RIGHT ANGLED TRIANGLE  
c. EQUILATERAL TRIANGLE  
d. EXIT

Enter your choice: c

Enter the first number: 5

Enter the second number: 5

Enter the third number: 5

5, 5 and 5 are the lengths of an equilateral triangle

MENU DRIVEN PROGRAMME TO VERIFY THE TRIANGLE LIES IN WHICH CATEGORY:

a. ISOSCELES TRIANGLE  
b. RIGHT ANGLED TRIANGLE  
c. EQUILATERAL TRIANGLE  
d. EXIT

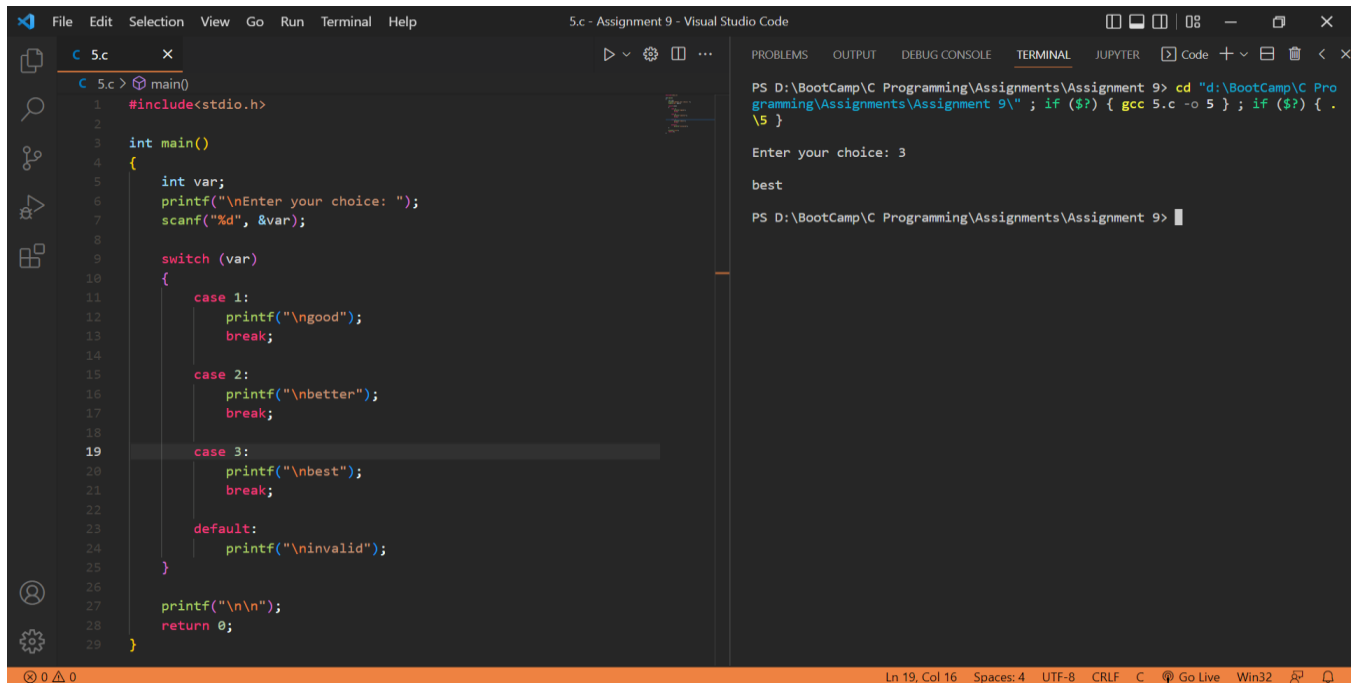
Enter your choice: d

Thank you for using the programme.

PS D:\BootCamp\C Programming\Assignments\Assignment 9>

Ln 73, Col 9 Spaces: 4 UTF-8 CRLF C Go Live Win32

Q5.



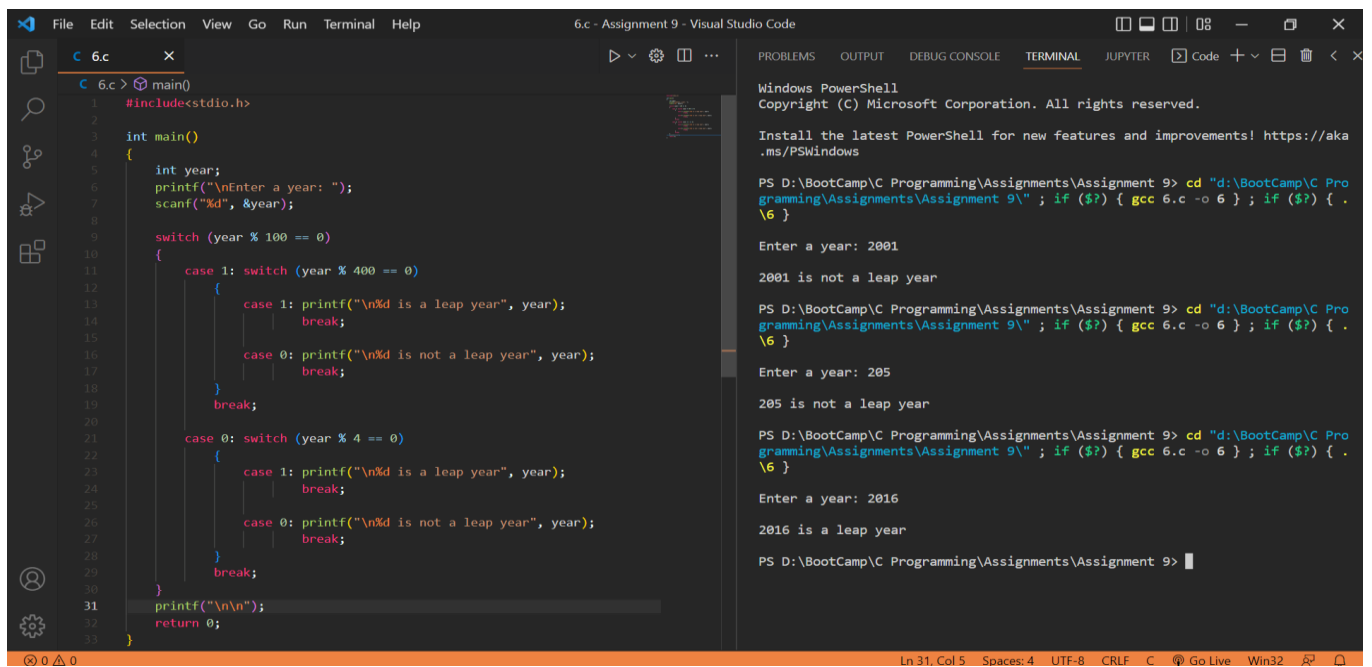
The screenshot shows a Visual Studio Code editor with a C file named `5.c`. The code is a simple menu program that uses a `switch` statement to handle user input. The terminal on the right shows the program being compiled and run, with the user entering '3' and the program outputting 'best'.

```
5.c
1 #include<stdio.h>
2
3 int main()
4 {
5     int var;
6     printf("\nEnter your choice: ");
7     scanf("%d", &var);
8
9     switch (var)
10    {
11        case 1:
12            printf("\ngood");
13            break;
14
15        case 2:
16            printf("\nbetter");
17            break;
18
19        case 3:
20            printf("\nbest");
21            break;
22
23        default:
24            printf("\ninvalid");
25    }
26
27    printf("\n\n");
28    return 0;
29 }
```

Terminal Output:

```
PS D:\BootCamp\C Programming\Assignments\Assignment 9> cd "d:\BootCamp\C Programming\Assignments\Assignment 9\" ; if ($?) { gcc 5.c -o 5 } ; if ($?) { .\5 }
Enter your choice: 3
best
PS D:\BootCamp\C Programming\Assignments\Assignment 9> |
```

Q6.



The screenshot shows a Visual Studio Code editor with a C file named `6.c`. The code is a program to check if a year is a leap year. It uses a `switch` statement to handle the year modulo 100 and 4. The terminal on the right shows the program being compiled and run, with the user entering '2001', '205', and '2016', and the program outputting '2001 is not a leap year', '205 is not a leap year', and '2016 is a leap year' respectively.

```
6.c
1 #include<stdio.h>
2
3 int main()
4 {
5     int year;
6     printf("\nEnter a year: ");
7     scanf("%d", &year);
8
9     switch (year % 100 == 0)
10    {
11        case 1: switch (year % 400 == 0)
12            {
13                case 1: printf("\n%d is a leap year", year);
14                    break;
15                case 0: printf("\n%d is not a leap year", year);
16                    break;
17            }
18        case 0: switch (year % 4 == 0)
19            {
20                case 1: printf("\n%d is a leap year", year);
21                    break;
22                case 0: printf("\n%d is not a leap year", year);
23                    break;
24            }
25        break;
26    }
27    printf("\n\n");
28    return 0;
29 }
```

Terminal Output:

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS D:\BootCamp\C Programming\Assignments\Assignment 9> cd "d:\BootCamp\C Programming\Assignments\Assignment 9\" ; if ($?) { gcc 6.c -o 6 } ; if ($?) { .\6 }
Enter a year: 2001
2001 is not a leap year
PS D:\BootCamp\C Programming\Assignments\Assignment 9> cd "d:\BootCamp\C Programming\Assignments\Assignment 9\" ; if ($?) { gcc 6.c -o 6 } ; if ($?) { .\6 }
Enter a year: 205
205 is not a leap year
PS D:\BootCamp\C Programming\Assignments\Assignment 9> cd "d:\BootCamp\C Programming\Assignments\Assignment 9\" ; if ($?) { gcc 6.c -o 6 } ; if ($?) { .\6 }
Enter a year: 2016
2016 is a leap year
PS D:\BootCamp\C Programming\Assignments\Assignment 9> |
```

Q7.

The screenshot shows a Visual Studio Code window with a C program named 7.c. The program calculates electricity bills based on units consumed. It uses a switch statement with nested cases to handle different rates. The terminal shows the program being compiled and run, with input and output values.

```
7.c > main()
1 #include <stdio.h>
2
3 int main()
4 {
5     float units, amount = 0, total = 0;
6     printf("\nEnter the units of electricity: ");
7     scanf("%f", &units);
8
9     switch (units <= 50)
10    {
11        case 1: amount = units * 0.50;
12                break;
13
14        case 0: switch (units <= 150)
15                {
16                    case 1: amount = 25 + (units - 50) * 0.75;
17                            break;
18
19                    case 0: switch (units <= 250)
20                            {
21                                case 1: amount = 100 + (units - 150) * 1.20;
22                                        break;
23
24                                case 0: amount = 220 + (units - 250) * 1.50;
25                                        break;
26                            }
27                    }
28                break;
29    }
30
31    total = amount + amount * 0.20;
32    printf("\nTotal amount of electricity bill is: %.3f", total);
33
34    printf("\n\n");
35    return 0;
36 }
```

Terminal Output:

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS D:\BootCamp\C Programming\Assignments\Assignment 9> cd "d:\BootCamp\C Programming\Assignments\Assignment 9\" ; if ($?) { gcc 7.c -o 7 } ; if ($?) { .\7 }

Enter the units of electricity: 78

Total amount of electricity bill is: 55.200

PS D:\BootCamp\C Programming\Assignments\Assignment 9> cd "d:\BootCamp\C Programming\Assignments\Assignment 9\" ; if ($?) { gcc 7.c -o 7 } ; if ($?) { .\7 }

Enter the units of electricity: 0

Total amount of electricity bill is: 0.000

PS D:\BootCamp\C Programming\Assignments\Assignment 9> cd "d:\BootCamp\C Programming\Assignments\Assignment 9\" ; if ($?) { gcc 7.c -o 7 } ; if ($?) { .\7 }

Enter the units of electricity: 100

Total amount of electricity bill is: 75.000

PS D:\BootCamp\C Programming\Assignments\Assignment 9>
```

Q8.

The screenshot shows a Visual Studio Code window with a C program named 8.c. The program takes a number as input and converts it to its negative value using a switch statement. The terminal shows the program being compiled and run, with input and output values.

```
8.c > main()
1 #include <stdio.h>
2
3 int main()
4 {
5     int num, num1;
6     printf("\nEnter a number: ");
7     scanf("%d", &num);
8
9     printf("\nBefore Conversion: %d\n", num);
10
11    switch (num > 0)
12    {
13        case 1: num = -num;
14                printf("\nAfter Conversion: %d", num);
15                break;
16
17        case 0: num = -num;
18                printf("\nAfter Conversion: %d", num);
19                break;
20
21        default:
22            printf("\nAfter Conversion: %d", num);
23            break;
24    }
25
26    printf("\n\n");
27    return 0;
28 }
```

Terminal Output:

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS D:\BootCamp\C Programming\Assignments\Assignment 9> cd "d:\BootCamp\C Programming\Assignments\Assignment 9\" ; if ($?) { gcc 8.c -o 8 } ; if ($?) { .\8 }

8.c: In function 'main':
8.c:11:5: warning: switch condition has boolean value [-Wswitch-bool]
11 |     switch (num > 0)
    |           ~~~~~

Enter a number: 2

Before Conversion: 2

After Conversion: -2

PS D:\BootCamp\C Programming\Assignments\Assignment 9> cd "d:\BootCamp\C Programming\Assignments\Assignment 9\" ; if ($?) { gcc 8.c -o 8 } ; if ($?) { .\8 }

8.c: In function 'main':
8.c:11:5: warning: switch condition has boolean value [-Wswitch-bool]
11 |     switch (num > 0)
    |           ~~~~~

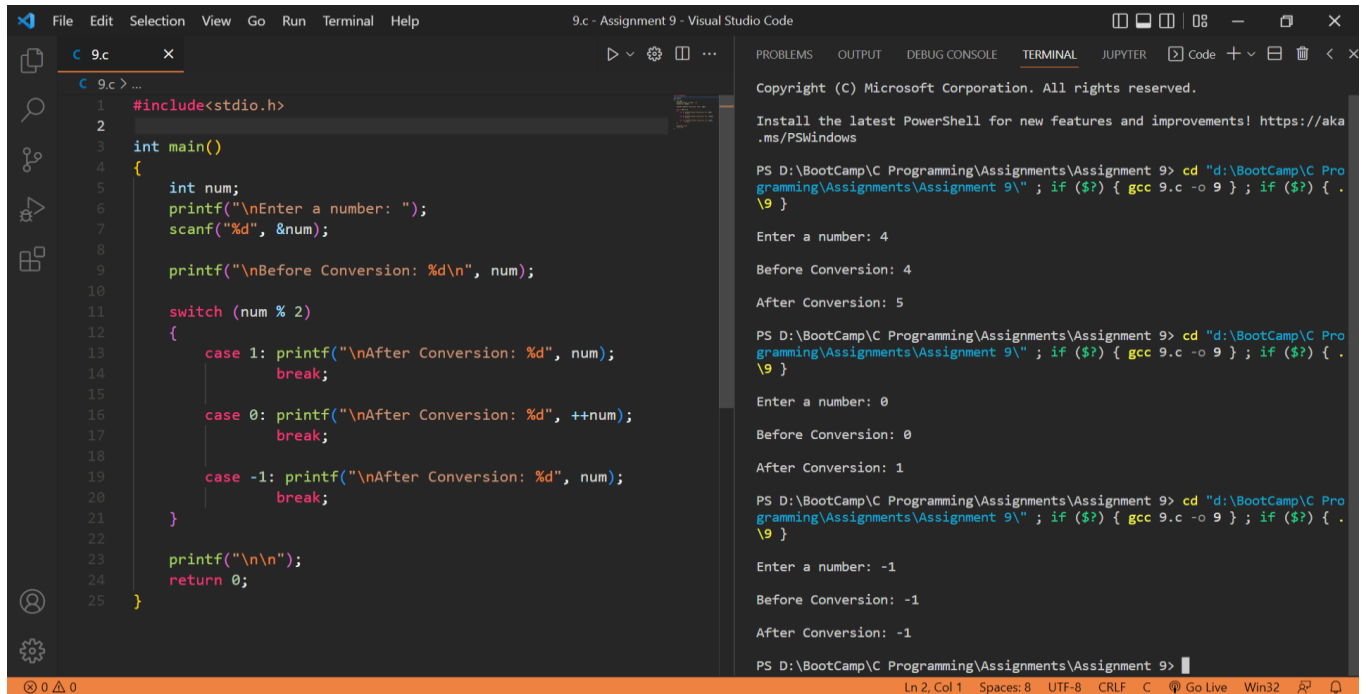
Enter a number: 0

Before Conversion: 0

After Conversion: 0

PS D:\BootCamp\C Programming\Assignments\Assignment 9>
```

# Q9.



```
9.c - Assignment 9 - Visual Studio Code

1 #include<stdio.h>
2
3 int main()
4 {
5     int num;
6     printf("\nEnter a number: ");
7     scanf("%d", &num);
8
9     printf("\nBefore Conversion: %d\n", num);
10
11    switch (num % 2)
12    {
13        case 1: printf("\nAfter Conversion: %d", num);
14                break;
15
16        case 0: printf("\nAfter Conversion: %d", ++num);
17                break;
18
19        case -1: printf("\nAfter Conversion: %d", num);
20                break;
21    }
22
23    printf("\n\n");
24    return 0;
25 }
```

Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! <https://aka.ms/PSWindows>

PS D:\BootCamp\C Programming\Assignments\Assignment 9> cd "d:\BootCamp\C Programming\Assignments\Assignment 9\" ; if (\$?) { gcc 9.c -o 9 } ; if (\$?) { .\9 }

Enter a number: 4

Before Conversion: 4

After Conversion: 5

PS D:\BootCamp\C Programming\Assignments\Assignment 9> cd "d:\BootCamp\C Programming\Assignments\Assignment 9\" ; if (\$?) { gcc 9.c -o 9 } ; if (\$?) { .\9 }

Enter a number: 0

Before Conversion: 0

After Conversion: 1

PS D:\BootCamp\C Programming\Assignments\Assignment 9> cd "d:\BootCamp\C Programming\Assignments\Assignment 9\" ; if (\$?) { gcc 9.c -o 9 } ; if (\$?) { .\9 }

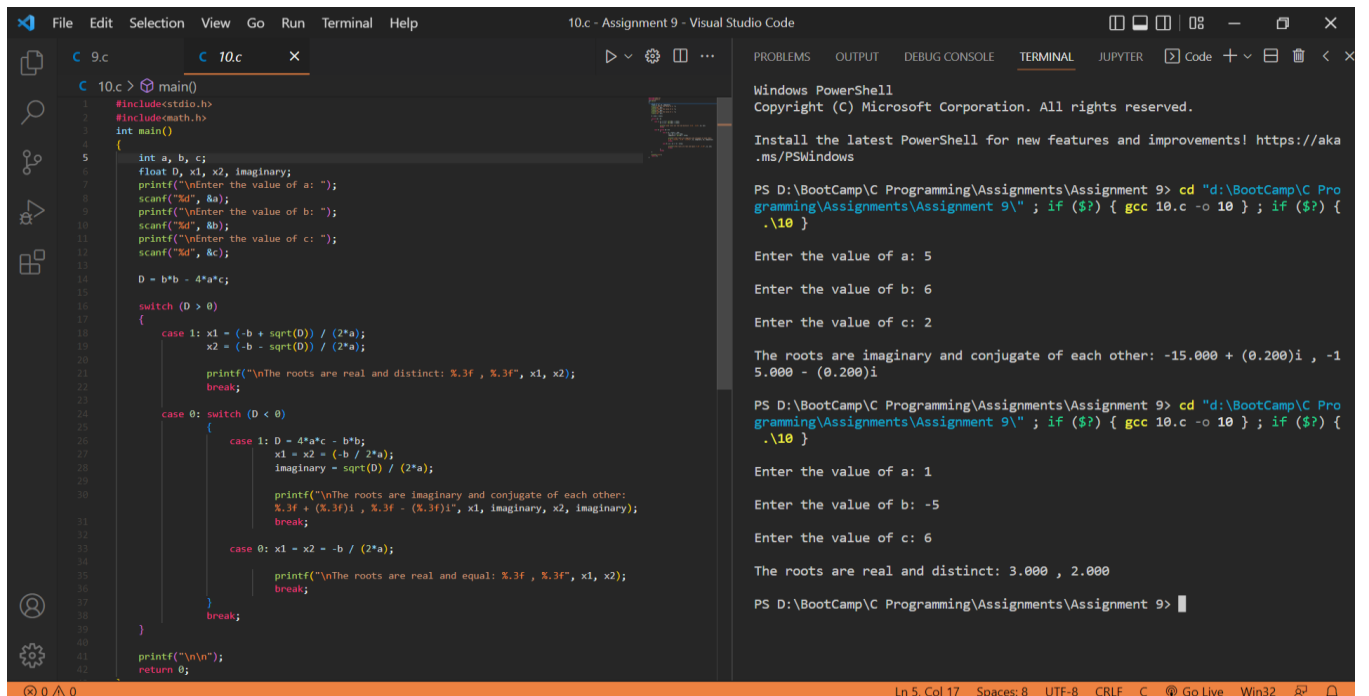
Enter a number: -1

Before Conversion: -1

After Conversion: -1

PS D:\BootCamp\C Programming\Assignments\Assignment 9>

# Q10.



```
10.c - Assignment 9 - Visual Studio Code

1 #include<stdio.h>
2 #include<math.h>
3 int main()
4 {
5     int a, b, c;
6     float D, x1, x2, imaginary;
7     printf("\nEnter the value of a: ");
8     scanf("%d", &a);
9     printf("\nEnter the value of b: ");
10    scanf("%d", &b);
11    printf("\nEnter the value of c: ");
12    scanf("%d", &c);
13
14    D = b*b - 4*a*c;
15
16    switch (D > 0)
17    {
18        case 1: x1 = (-b + sqrt(D)) / (2*a);
19                x2 = (-b - sqrt(D)) / (2*a);
20
21                printf("\nThe roots are real and distinct: %.3f , %.3f", x1, x2);
22                break;
23
24        case 0: switch (D < 0)
25                {
26                    case 1: D = 4*a*c - b*b;
27                            x1 = x2 = (-b / 2*a);
28                            imaginary = sqrt(D) / (2*a);
29
29                            printf("\nThe roots are imaginary and conjugate of each other:
30                                %.3f + (k.3f)i , %.3f - (k.3f)i", x1, imaginary, x2, imaginary);
31                            break;
32
33                    case 0: x1 = x2 = -b / (2*a);
34
35                            printf("\nThe roots are real and equal: %.3f , %.3f", x1, x2);
36                            break;
37                }
38
39        }
40
41    printf("\n\n");
42    return 0;
43 }
```

Windows PowerShell

Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! <https://aka.ms/PSWindows>

PS D:\BootCamp\C Programming\Assignments\Assignment 9> cd "d:\BootCamp\C Programming\Assignments\Assignment 9\" ; if (\$?) { gcc 10.c -o 10 } ; if (\$?) { .\10 }

Enter the value of a: 5

Enter the value of b: 6

Enter the value of c: 2

The roots are imaginary and conjugate of each other: -15.000 + (0.200)i , -15.000 - (0.200)i

PS D:\BootCamp\C Programming\Assignments\Assignment 9> cd "d:\BootCamp\C Programming\Assignments\Assignment 9\" ; if (\$?) { gcc 10.c -o 10 } ; if (\$?) { .\10 }

Enter the value of a: 1

Enter the value of b: -5

Enter the value of c: 6

The roots are real and distinct: 3.000 , 2.000

PS D:\BootCamp\C Programming\Assignments\Assignment 9>