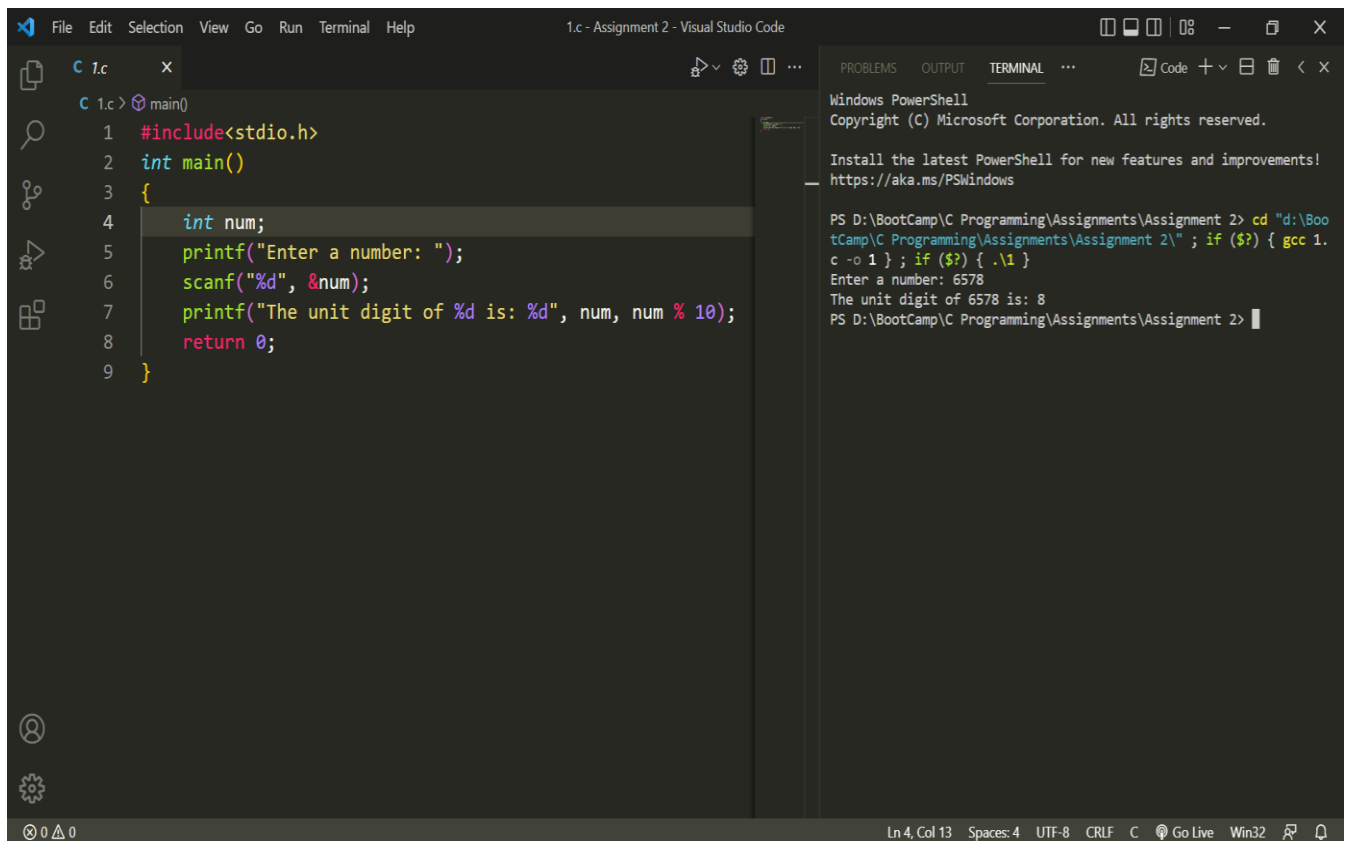


ASSIGNMENT – 02

(Operators in C language)

Q1.



The screenshot displays the Visual Studio Code interface. The editor window shows a C program named `1.c` with the following code:

```
1.c > main()
1  #include<stdio.h>
2  int main()
3  {
4      int num;
5      printf("Enter a number: ");
6      scanf("%d", &num);
7      printf("The unit digit of %d is: %d", num, num % 10);
8      return 0;
9  }
```

The output window on the right shows the execution of the program in a Windows PowerShell terminal:

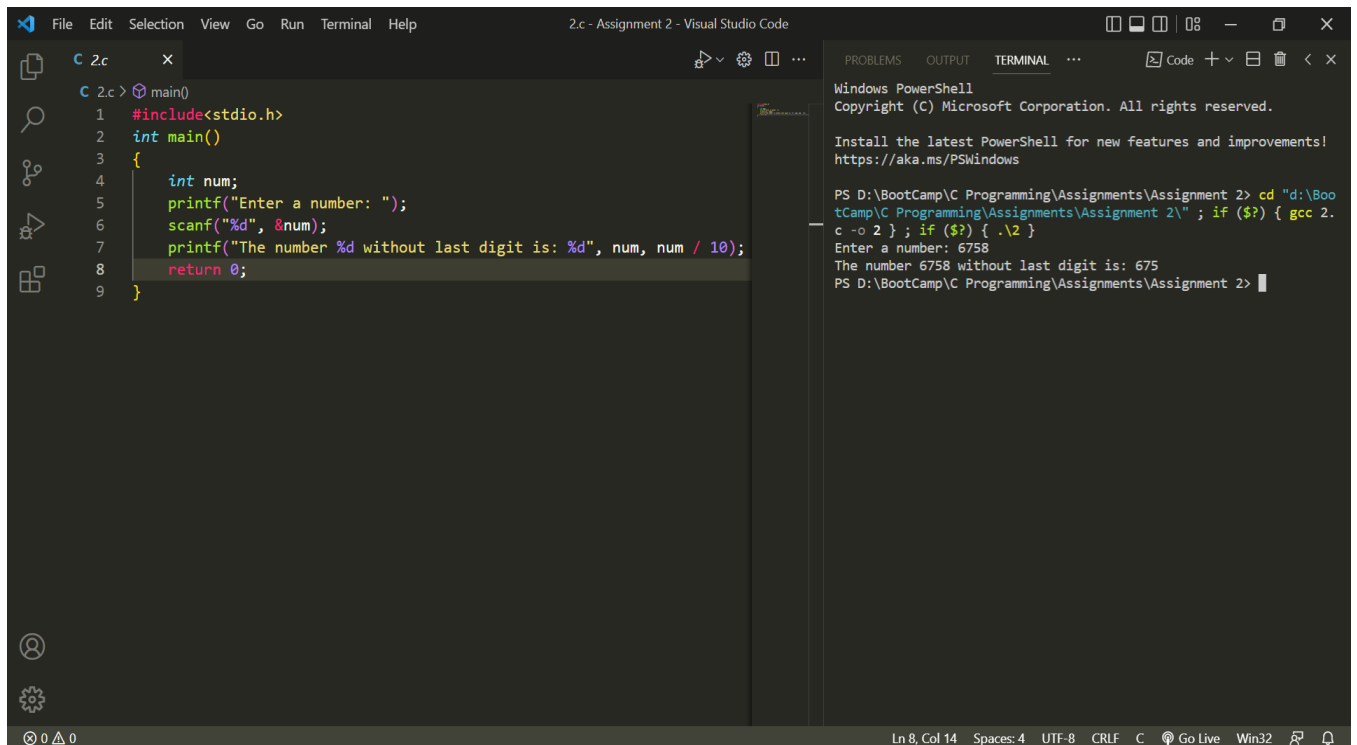
```
Windows PowerShell
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PS D:\BootCamp\C Programming\Assignments\Assignment 2> cd "d:\Boo
tCamp\C Programming\Assignments\Assignment 2\" ; if ($?) { gcc 1.
c -o 1 } ; if ($?) { .\1 }
Enter a number: 6578
The unit digit of 6578 is: 8
PS D:\BootCamp\C Programming\Assignments\Assignment 2> |
```

The status bar at the bottom indicates the current line and column: `Ln 4, Col 13`, along with other settings like `Spaces: 4`, `UTF-8`, `CRLF`, and `C`.

Q2.



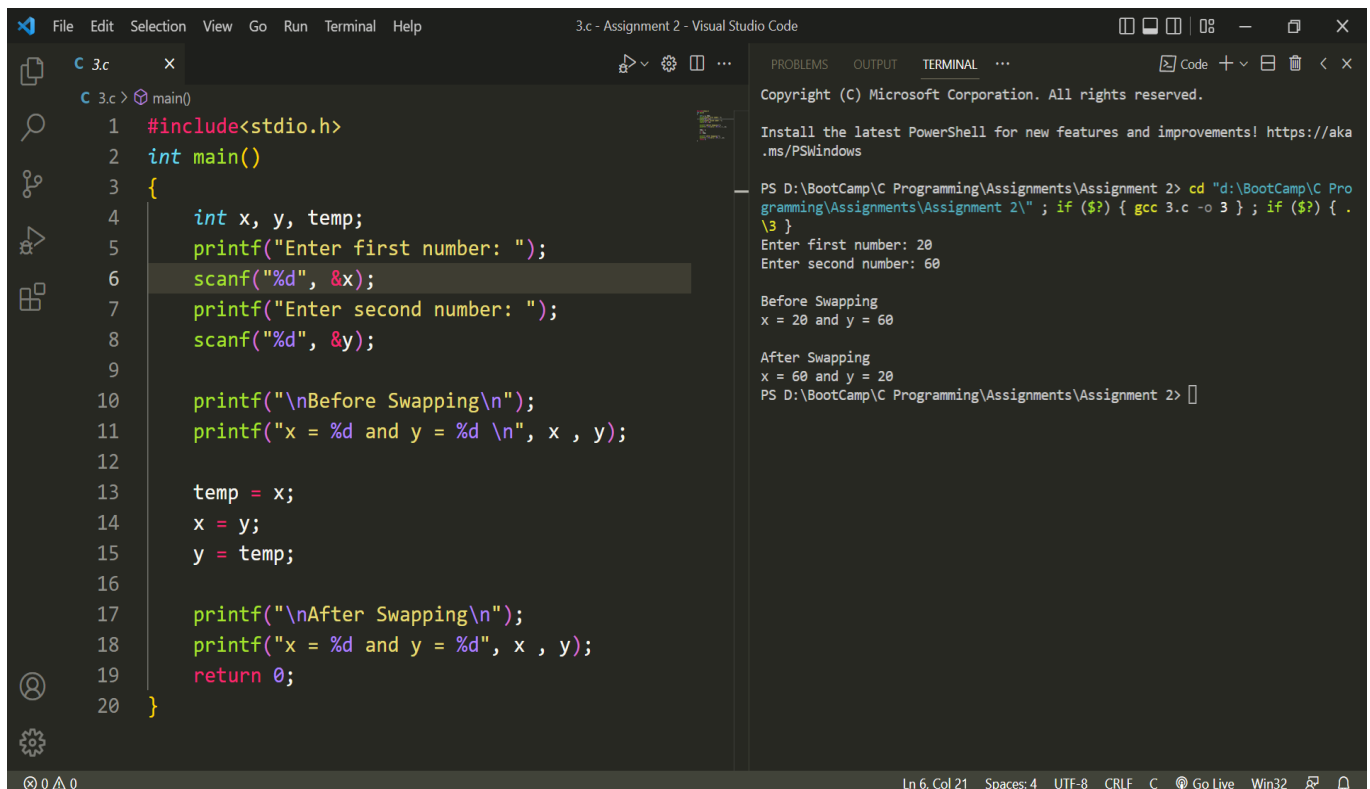
The screenshot shows the Visual Studio Code editor with a C file named `2.c`. The code is as follows:

```
1  #include<stdio.h>
2  int main()
3  {
4      int num;
5      printf("Enter a number: ");
6      scanf("%d", &num);
7      printf("The number %d without last digit is: %d", num, num / 10);
8      return 0;
9  }
```

The terminal on the right shows the execution of the program in a Windows PowerShell window:

```
PS D:\BootCamp\C Programming\Assignments\Assignment 2> cd "d:\Boo
tCamp\C Programming\Assignments\Assignment 2\" ; if ($?) { gcc 2.
c -o 2 } ; if ($?) { .\2 }
Enter a number: 6758
The number 6758 without last digit is: 675
PS D:\BootCamp\C Programming\Assignments\Assignment 2>
```

Q3.



The screenshot shows the Visual Studio Code editor with a C file named `3.c`. The code is as follows:

```
1  #include<stdio.h>
2  int main()
3  {
4      int x, y, temp;
5      printf("Enter first number: ");
6      scanf("%d", &x);
7      printf("Enter second number: ");
8      scanf("%d", &y);
9
10     printf("\nBefore Swapping\n");
11     printf("x = %d and y = %d \n", x , y);
12
13     temp = x;
14     x = y;
15     y = temp;
16
17     printf("\nAfter Swapping\n");
18     printf("x = %d and y = %d", x , y);
19     return 0;
20 }
```

The terminal on the right shows the execution of the program in a Windows PowerShell window:

```
PS D:\BootCamp\C Programming\Assignments\Assignment 2> cd "d:\BootCamp\C Pro
gramming\Assignments\Assignment 2\" ; if ($?) { gcc 3.c -o 3 } ; if ($?) { .
\3 }
Enter first number: 20
Enter second number: 60

Before Swapping
x = 20 and y = 60

After Swapping
x = 60 and y = 20
PS D:\BootCamp\C Programming\Assignments\Assignment 2>
```

Q4.

The screenshot shows a Visual Studio Code editor with a C program in a file named 4.c. The program prompts the user to enter two numbers, 10 and 34, and then swaps them using arithmetic operations. The terminal output shows the execution of the program, displaying the numbers before and after swapping.

```
1 #include<stdio.h>
2 int main()
3 {
4     int x, y;
5     printf("Enter first number: ");
6     scanf("%d", &x);
7     printf("Enter second number: ");
8     scanf("%d", &y);
9
10    printf("\nBefore Swapping\n");
11    printf("x = %d and y = %d \n", x , y);
12
13    x = x + y;
14    y = x - y;
15    x = x - y;
16
17    printf("\nAfter Swapping\n");
18    printf("x = %d and y = %d", x , y);
19    return 0;
20 }
```

Terminal Output:

```
Windows PowerShell
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PS D:\BootCamp\C Programming\Assignments\Assignment 2> cd "d:\BootCamp\C Programming\Assignments\Assignment 2\" ; if ($?) { gcc 4.c -o 4 } ; if ($?) { .\4 }
Enter first number: 10
Enter second number: 34

Before Swapping
x = 10 and y = 34

After Swapping
x = 34 and y = 10
PS D:\BootCamp\C Programming\Assignments\Assignment 2>
```

Q5.

The screenshot shows a Visual Studio Code editor with a C program in a file named 5.c. The program prompts the user to enter a three-digit number, 346, and then calculates the sum of its digits (3 + 4 + 6 = 13). The terminal output shows the execution of the program, displaying the sum of the digits.

```
1 #include<stdio.h>
2 int main()
3 {
4     int x1, x2, x3, x4, num;
5     printf("Enter a three digit number: ");
6     scanf("%d", &num);
7
8     x1 = num / 10;
9     x2 = x1 / 10;
10    x3 = x1 % 10;
11    x4 = num % 10;
12
13    printf("The sum of digits of %d is: %d", num, x2 + x3 + x4);
14    return 0;
15 }
```

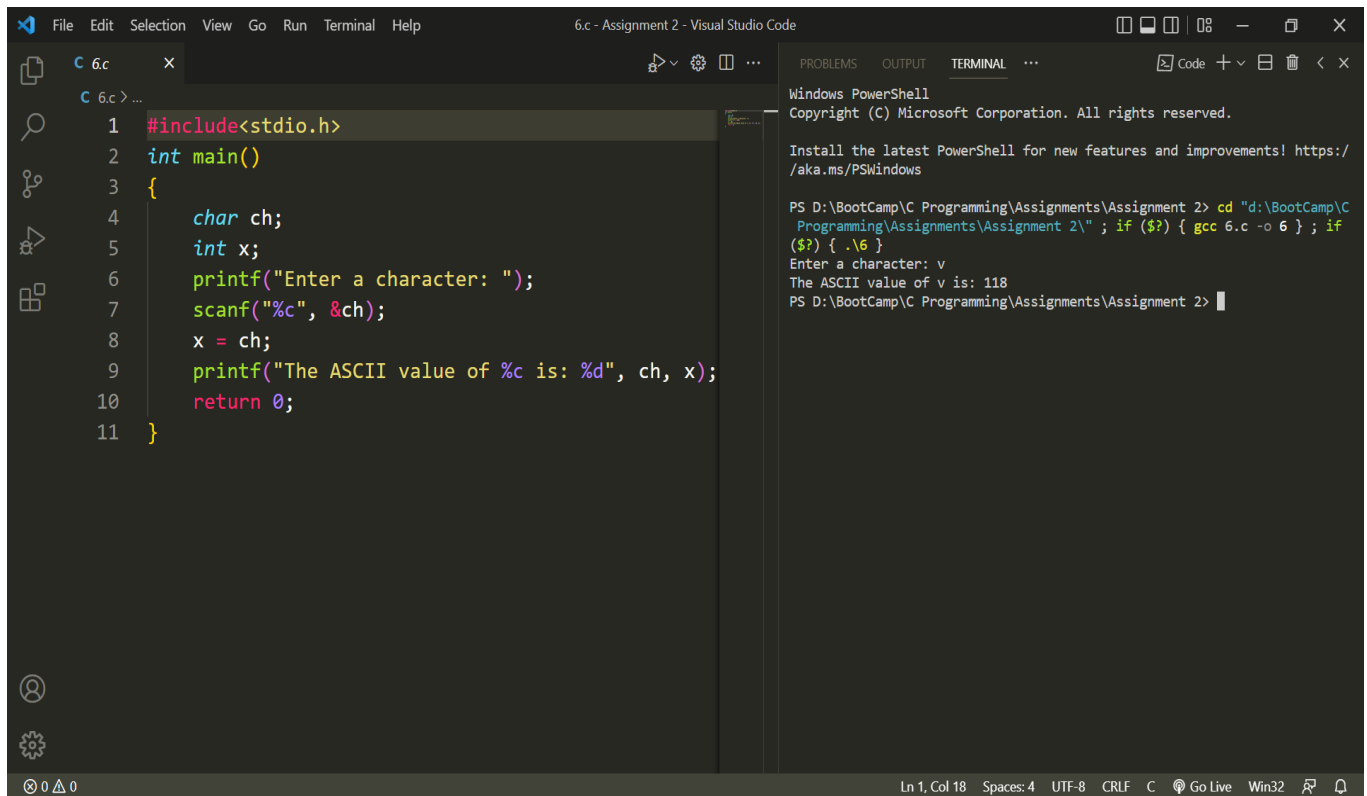
Terminal Output:

```
Windows PowerShell
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PS D:\BootCamp\C Programming\Assignments\Assignment 2> cd "d:\BootCamp\C Programming\Assignments\Assignment 2\" ; if ($?) { gcc 5.c -o 5 } ; if ($?) { .\5 }
Enter a three digit number: 346
The sum of digits of 346 is: 13
PS D:\BootCamp\C Programming\Assignments\Assignment 2>
```

Q6.



The screenshot shows the Visual Studio Code editor with a file named `6.c`. The code is a C program that reads a character and prints its ASCII value. The terminal window shows the command prompt output.

```
1 #include<stdio.h>
2 int main()
3 {
4     char ch;
5     int x;
6     printf("Enter a character: ");
7     scanf("%c", &ch);
8     x = ch;
9     printf("The ASCII value of %c is: %d", ch, x);
10    return 0;
11 }
```

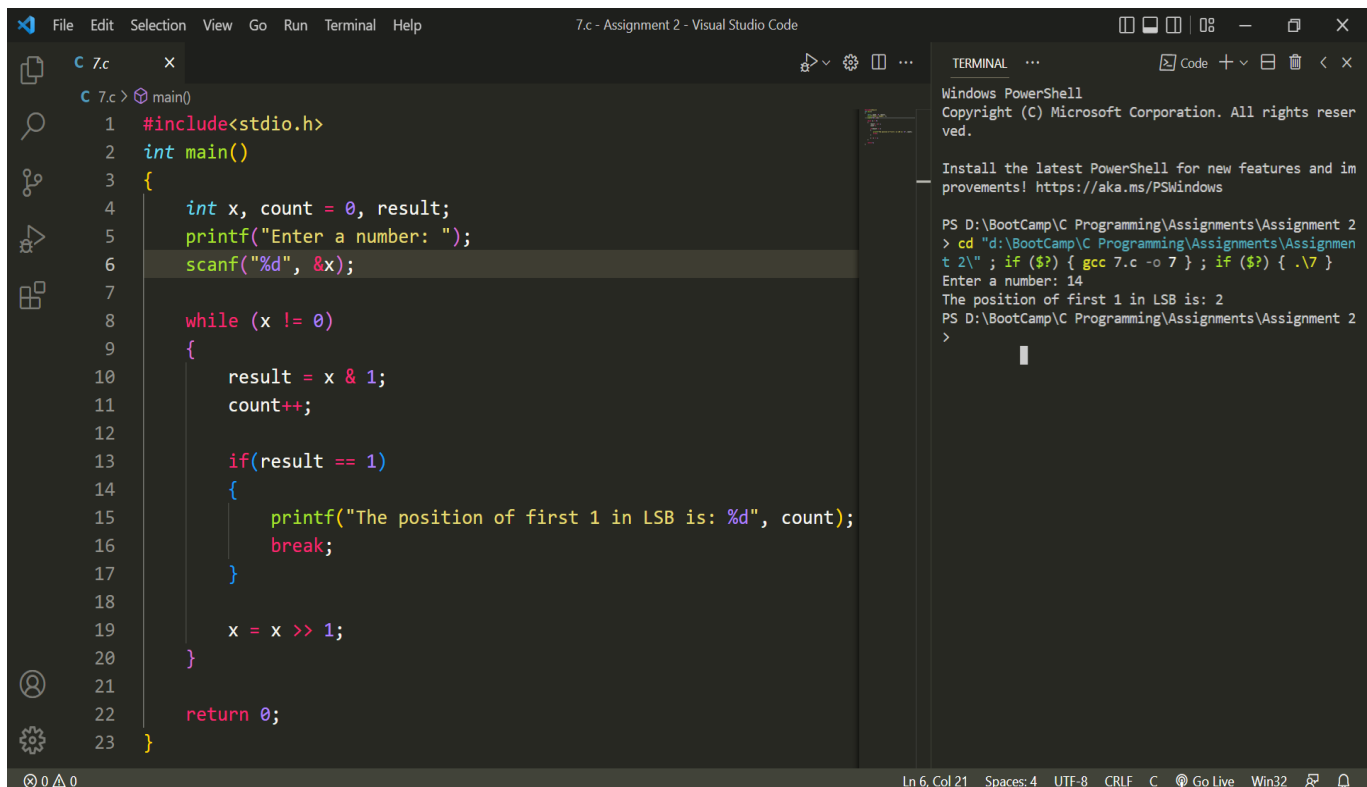
Terminal Output:

```
Windows PowerShell
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PS D:\BootCamp\C Programming\Assignments\Assignment 2> cd "d:\BootCamp\C Programming\Assignments\Assignment 2\" ; if ($?) { gcc 6.c -o 6 } ; if ($?) { .\6 }
Enter a character: v
The ASCII value of v is: 118
PS D:\BootCamp\C Programming\Assignments\Assignment 2>
```

Q7.



The screenshot shows the Visual Studio Code editor with a file named `7.c`. The code is a C program that finds the position of the first 1 in the Least Significant Bit (LSB) of a number. The terminal window shows the command prompt output.

```
1 #include<stdio.h>
2 int main()
3 {
4     int x, count = 0, result;
5     printf("Enter a number: ");
6     scanf("%d", &x);
7
8     while (x != 0)
9     {
10        result = x & 1;
11        count++;
12
13        if(result == 1)
14        {
15            printf("The position of first 1 in LSB is: %d", count);
16            break;
17        }
18
19        x = x >> 1;
20    }
21
22    return 0;
23 }
```

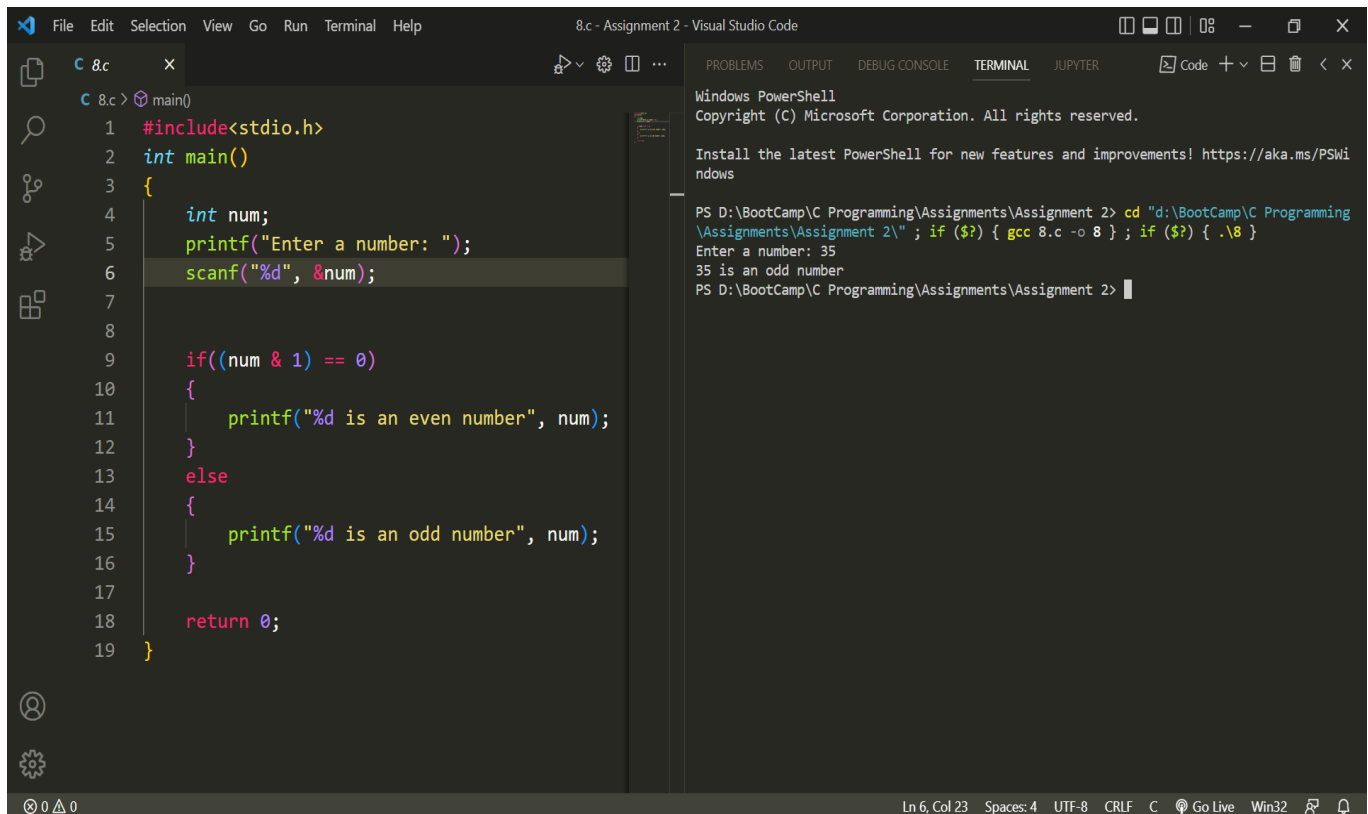
Terminal Output:

```
Windows PowerShell
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PS D:\BootCamp\C Programming\Assignments\Assignment 2> cd "d:\BootCamp\C Programming\Assignments\Assignment 2\" ; if ($?) { gcc 7.c -o 7 } ; if ($?) { .\7 }
Enter a number: 14
The position of first 1 in LSB is: 2
PS D:\BootCamp\C Programming\Assignments\Assignment 2>
```

Q8.



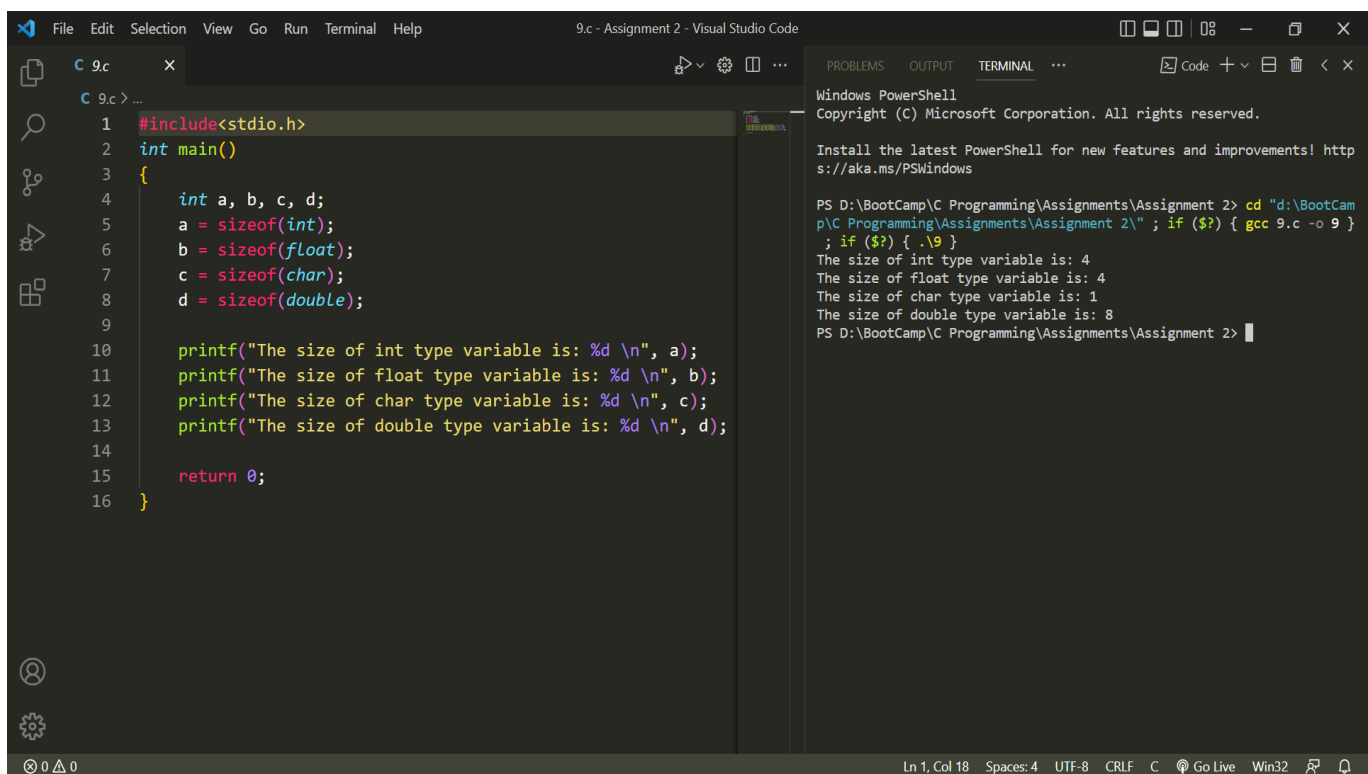
The screenshot shows the Visual Studio Code editor with a C file named `8.c`. The code defines a `main` function that prompts the user for a number, reads it, and checks if it is even or odd using a bitwise AND operation. The terminal on the right shows the command to compile and run the program, followed by the user input `35` and the output `35 is an odd number`.

```
1 #include<stdio.h>
2 int main()
3 {
4     int num;
5     printf("Enter a number: ");
6     scanf("%d", &num);
7
8
9     if((num & 1) == 0)
10    {
11        printf("%d is an even number", num);
12    }
13    else
14    {
15        printf("%d is an odd number", num);
16    }
17
18    return 0;
19 }
```

Terminal Output:

```
PS D:\BootCamp\C Programming\Assignments\Assignment 2> cd "d:\BootCamp\C Programming\Assignments\Assignment 2\"; if ($?) { gcc 8.c -o 8 }; if ($?) { .\8 }
Enter a number: 35
35 is an odd number
PS D:\BootCamp\C Programming\Assignments\Assignment 2>
```

Q9.



The screenshot shows the Visual Studio Code editor with a C file named `9.c`. The code defines a `main` function that declares variables of different types, calculates their sizes using `sizeof`, and prints the results. The terminal on the right shows the command to compile and run the program, followed by the output showing the sizes of `int`, `float`, `char`, and `double` variables.

```
1 #include<stdio.h>
2 int main()
3 {
4     int a, b, c, d;
5     a = sizeof(int);
6     b = sizeof(float);
7     c = sizeof(char);
8     d = sizeof(double);
9
10    printf("The size of int type variable is: %d \n", a);
11    printf("The size of float type variable is: %d \n", b);
12    printf("The size of char type variable is: %d \n", c);
13    printf("The size of double type variable is: %d \n", d);
14
15    return 0;
16 }
```

Terminal Output:

```
PS D:\BootCamp\C Programming\Assignments\Assignment 2> cd "d:\BootCamp\C Programming\Assignments\Assignment 2\"; if ($?) { gcc 9.c -o 9 }; if ($?) { .\9 }
The size of int type variable is: 4
The size of float type variable is: 4
The size of char type variable is: 1
The size of double type variable is: 8
PS D:\BootCamp\C Programming\Assignments\Assignment 2>
```

Q10.

The screenshot shows a Visual Studio Code window with a C file named `10.c`. The code is as follows:

```
1 #include<stdio.h>
2 int main()
3 {
4     int num, x, y;
5     printf("Enter a number: ");
6     scanf("%d", &num);
7     printf("\nBefore changing unit digit\n");
8     printf("x = %d", num);
9
10    x = num / 10;
11    y = x * 10;
12
13    printf("\nAfter changing unit digit\n");
14    printf("x = %d", y);
15    return 0;
16 }
```

The terminal output shows the program being executed in a PowerShell window. The user enters the number 7658. The program outputs "Before changing unit digit" and "x = 7658", then "After changing unit digit" and "x = 7650".

```
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PS D:\BootCamp\C Programming\Assignments\Assignment 2> cd "d:\BootCamp\C Programming\Assignments\Assignment 2\" ; if ($?) { gcc 10.c -o 10 } ; if ($?) { .\10 }
Enter a number: 7658

Before changing unit digit
x = 7658
After changing unit digit
x = 7650
PS D:\BootCamp\C Programming\Assignments\Assignment 2>
```

Q11.

The screenshot shows a Visual Studio Code window with a C file named `11.c`. The code is as follows:

```
1 #include<stdio.h>
2 int main()
3 {
4     int num, digit, x, y;
5     printf("Enter a number: ");
6     scanf("%d", &num);
7     printf("Enter a digit: ");
8     scanf("%d", &digit);
9     printf("\nNumber = %d and Digit = %d", num, digit);
10
11    x = num * 10;
12    y = x + digit;
13
14    printf("\nTherefore, Resulting Number = %d", y);
15    return 0;
16 }
```

The terminal output shows the program being executed in a PowerShell window. The user enters the number 2314 and the digit 7. The program outputs "Number = 2314 and Digit = 7" and "Therefore, Resulting Number = 23147".

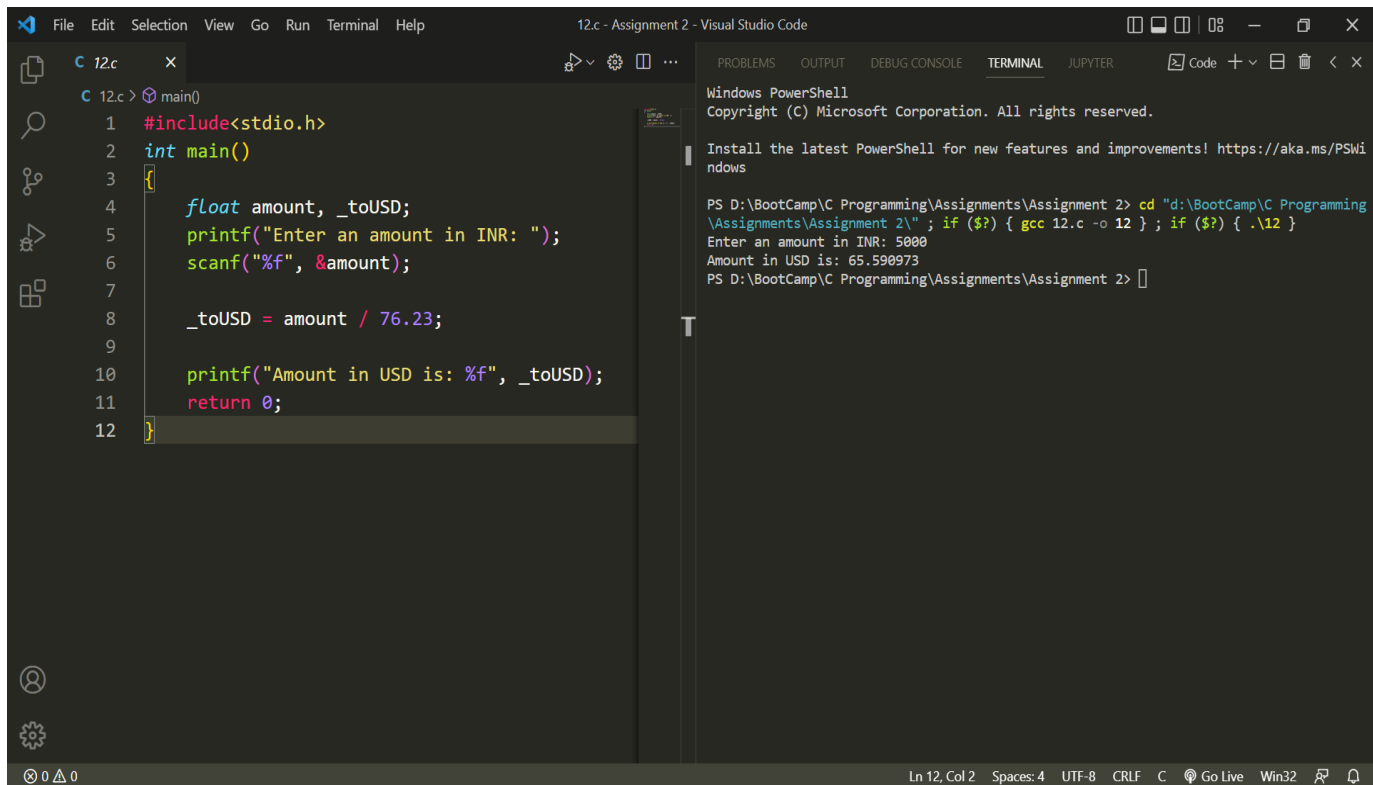
```
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PS D:\BootCamp\C Programming\Assignments\Assignment 2> cd "d:\BootCamp\C Programming\Assignments\Assignment 2\" ; if ($?) { gcc 11.c -o 11 } ; if ($?) { .\11 }
Enter a number: 2314
Enter a digit: 7

Number = 2314 and Digit = 7
Therefore, Resulting Number = 23147
PS D:\BootCamp\C Programming\Assignments\Assignment 2>
```

Q12.



```
File Edit Selection View Go Run Terminal Help
12.c - Assignment 2 - Visual Studio Code

12.c
1 #include<stdio.h>
2 int main()
3 {
4     float amount, _toUSD;
5     printf("Enter an amount in INR: ");
6     scanf("%f", &amount);
7
8     _toUSD = amount / 76.23;
9
10    printf("Amount in USD is: %f", _toUSD);
11    return 0;
12 }
```

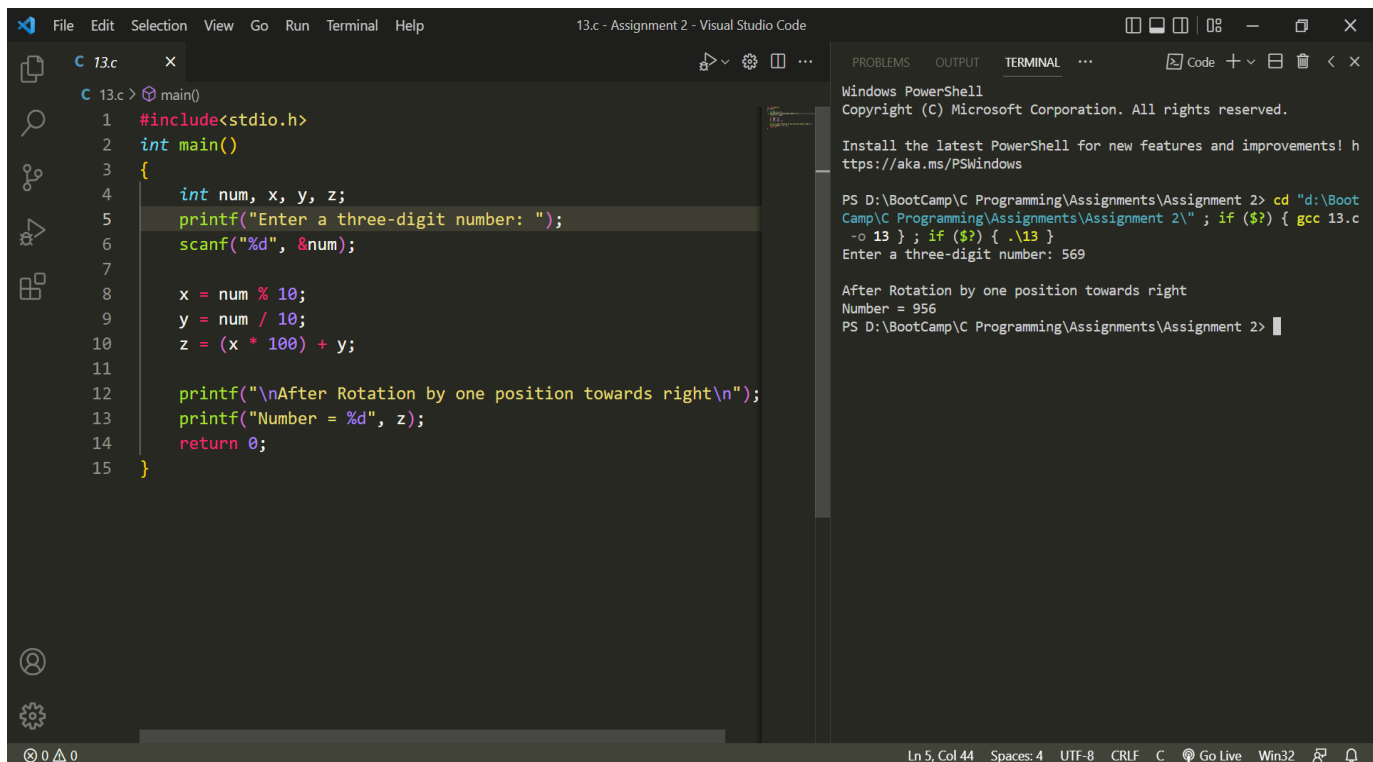
```
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PS D:\BootCamp\C Programming\Assignments\Assignment 2> cd "d:\BootCamp\C Programming\Assignments\Assignment 2\"; if ($?) { gcc 12.c -o 12 }; if ($?) { .\12 }
Enter an amount in INR: 5000
Amount in USD is: 65.590973
PS D:\BootCamp\C Programming\Assignments\Assignment 2>
```

Ln 12, Col 2 Spaces: 4 UTF-8 CRLF C Go Live Win32

Q13.



```
File Edit Selection View Go Run Terminal Help
13.c - Assignment 2 - Visual Studio Code

13.c
1 #include<stdio.h>
2 int main()
3 {
4     int num, x, y, z;
5     printf("Enter a three-digit number: ");
6     scanf("%d", &num);
7
8     x = num % 10;
9     y = num / 10;
10    z = (x * 100) + y;
11
12    printf("\nAfter Rotation by one position towards right\n");
13    printf("Number = %d", z);
14    return 0;
15 }
```

```
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PS D:\BootCamp\C Programming\Assignments\Assignment 2> cd "d:\BootCamp\C Programming\Assignments\Assignment 2\"; if ($?) { gcc 13.c -o 13 }; if ($?) { .\13 }
Enter a three-digit number: 569

After Rotation by one position towards right
Number = 956
PS D:\BootCamp\C Programming\Assignments\Assignment 2>
```

Ln 5, Col 44 Spaces: 4 UTF-8 CRLF C Go Live Win32