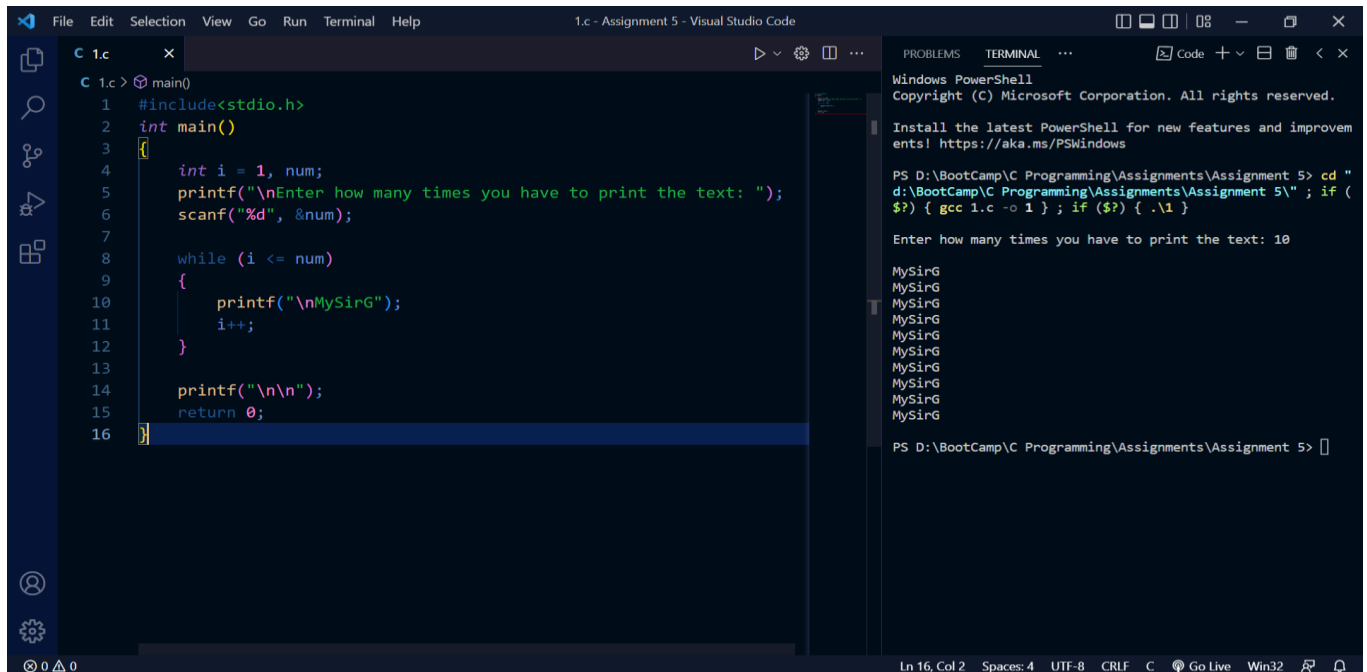


# ASSIGNMENT – 05

## (Iterative Control Statements – 02)

Q1.



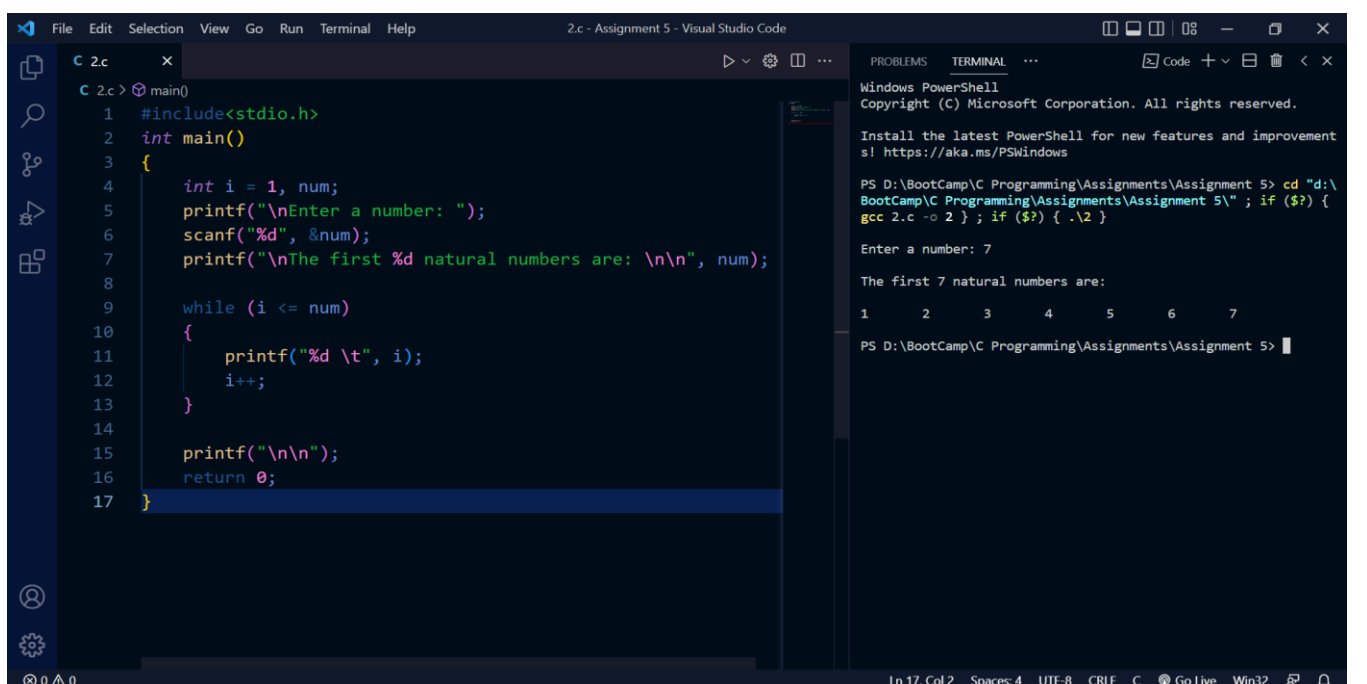
The screenshot shows a Visual Studio Code editor with a C program named 1.c. The program uses a while loop to print 'MySirG' a specified number of times. The terminal output shows the program being compiled and executed, resulting in 'MySirG' being printed 10 times.

```
1.c - Assignment 5 - Visual Studio Code  
C 1.c  
1 #include<stdio.h>  
2 int main()  
3 {  
4     int i = 1, num;  
5     printf("\nEnter how many times you have to print the text: ");  
6     scanf("%d", &num);  
7  
8     while (i <= num)  
9     {  
10        printf("\nMySirG");  
11        i++;  
12    }  
13  
14    printf("\n\n");  
15    return 0;  
16 }
```

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 5> cd "d:\BootCamp\C Programming\Assignments\Assignment 5\"; if ($?) { gcc 1.c -o 1 }; if ($?) { .\1 }  
  
Enter how many times you have to print the text: 10  
  
MySirG  
MySirG  
MySirG  
MySirG  
MySirG  
MySirG  
MySirG  
MySirG  
MySirG  
MySirG  
  
PS D:\BootCamp\C Programming\Assignments\Assignment 5>
```

Q2.



The screenshot shows a Visual Studio Code editor with a C program named 2.c. The program uses a while loop to print the first 'num' natural numbers. The terminal output shows the program being compiled and executed, resulting in the first 7 natural numbers being printed.

```
2.c - Assignment 5 - Visual Studio Code  
C 2.c  
1 #include<stdio.h>  
2 int main()  
3 {  
4     int i = 1, num;  
5     printf("\nEnter a number: ");  
6     scanf("%d", &num);  
7     printf("\nThe first %d natural numbers are: \n\n", num);  
8  
9     while (i <= num)  
10    {  
11        printf("%d \t", i);  
12        i++;  
13    }  
14  
15    printf("\n\n");  
16    return 0;  
17 }
```

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 5> cd "d:\BootCamp\C Programming\Assignments\Assignment 5\"; if ($?) { gcc 2.c -o 2 }; if ($?) { .\2 }  
  
Enter a number: 7  
  
The first 7 natural numbers are:  
  
1    2    3    4    5    6    7  
  
PS D:\BootCamp\C Programming\Assignments\Assignment 5>
```

# Q3.

```
File Edit Selection View Go Run Terminal Help 3.c - Assignment 5 - Visual Studio Code

C 3.c x
1 #include<stdio.h>
2 int main()
3 {
4     int num;
5     printf("\nEnter a number: ");
6     scanf("%d", &num);
7     printf("\nThe first %d natural numbers in reverse order are: \n\n", num);
8
9     int i = num;
10    while (i >= 1)
11    {
12        printf("%d \t", i);
13        i--;
14    }
15
16    printf("\n\n");
17    return 0;
18 }
```

PROBLEMS TERMINAL ...

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

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

Enter a number: 8

The first 8 natural numbers in reverse order are:

8    7    6    5    4    3    2    1

PS D:\BootCamp\C Programming\Assignments\Assignment 5>

Ln 18, Col 2   Spaces: 4   UTF-8   CRLF   C   Go Live   Win32

# Q4.

```
File Edit Selection View Go Run Terminal Help 4.c - Assignment 5 - Visual Studio Code

C 4.c x
1 #include<stdio.h>
2 int main()
3 {
4     int i = 1, num;
5     printf("\nEnter a number: ");
6     scanf("%d", &num);
7     printf("\nThe first %d odd natural numbers are: \n\n", num);
8
9     while (i <= num)
10    {
11        printf("%d \t", 2*i-1);
12        i++;
13    }
14
15    printf("\n\n");
16    return 0;
17 }
```

PROBLEMS OUTPUT TERMINAL ...

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

PS D:\BootCamp\C Programming\Assignments\Assignment 5> cd "d:\BootCamp\C Programming\Assignments\Assignment 5\" ; if (\$?) { gcc 4.c -o 4 } ; if (\$?) { .\4 }

Enter a number: 6

The first 6 odd natural numbers are:

1    3    5    7    9    11

PS D:\BootCamp\C Programming\Assignments\Assignment 5>

Ln 17, Col 2   Spaces: 4   UTF-8   CRLF   C   Go Live   Win32

# Q5.

The screenshot shows the Visual Studio Code interface with a C file named 5.c. The code defines a main function that prompts the user for a number, reads it, and then prints the first 'num' odd natural numbers in reverse order. The terminal output shows the user entering '5' and the program printing '9 7 5 3 1'.

```
5.c > main()
1 #include<stdio.h>
2 int main()
3 {
4     int num;
5     printf("\nEnter a number: ");
6     scanf("%d", &num);
7     printf("\nThe first %d odd natural numbers in reverse order are: \n\n", num);
8
9     int i = num;
10    while (i >= 1)
11    {
12        printf("%d \t", 2*i-1);
13        i--;
14    }
15
16    printf("\n\n");
17    return 0;
18 }
```

Terminal Output:

```
Windows PowerShell
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https://aka.ms/PSWindows

PS D:\BootCamp\C Programming\Assignments\Assignment 5> cd "d:\Boot
Camp\C Programming\Assignments\Assignment 5\" ; if ($?) { gcc 5.c
-o 5 } ; if ($?) { .\5 }

Enter a number: 5

The first 5 odd natural numbers in reverse order are:

9      7      5      3      1

PS D:\BootCamp\C Programming\Assignments\Assignment 5> 
```

# Q6.

The screenshot shows the Visual Studio Code interface with a C file named 6.c. The code defines a main function that prompts the user for a number, reads it, and then prints the first 'num' even natural numbers. The terminal output shows the user entering '9' and the program printing '2 4 6 8 10 12 14 16 18'.

```
6.c > main()
1 #include<stdio.h>
2 int main()
3 {
4     int i = 1, num;
5     printf("\nEnter a number: ");
6     scanf("%d", &num);
7     printf("\nThe first %d even natural numbers are: \n\n", num);
8
9     while (i <= num)
10    {
11        printf("%d \t", 2*i);
12        i++;
13    }
14
15    printf("\n\n");
16    return 0;
17 }
```

Terminal Output:

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

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

PS D:\BootCamp\C Programming\Assignments\Assignment 5> cd "d:\BootCam
p\C Programming\Assignments\Assignment 5\" ; if ($?) { gcc 6.c -o 6 }
; if ($?) { .\6 }

Enter a number: 9

The first 9 even natural numbers are:

2      4      6      8      10     12     14     16     18

PS D:\BootCamp\C Programming\Assignments\Assignment 5> 
```

Q7.

The screenshot shows the Visual Studio Code editor with a C program named 7.c. The program prompts the user to enter a number and then prints the first 9 even natural numbers in reverse order. The terminal output shows the program running successfully with the input 9.

```
7.c
1 #include<stdio.h>
2 int main()
3 {
4     int num;
5     printf("\nEnter a number: ");
6     scanf("%d", &num);
7     printf("\nThe first %d even natural numbers in reverse order are: \n\n", num);
8
9     int i = num;
10    while (i >= 1)
11    {
12        printf("%d \t", 2*i);
13        i--;
14    }
15
16    printf("\n\n");
17    return 0;
18 }
```

Terminal Output:

```
Windows PowerShell
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Install the latest PowerShell for new features and improvements! h
tps://aka.ms/PSWindows

PS D:\BootCamp\C Programming\Assignments\Assignment 5> cd "d:\Boo
tCamp\C Programming\Assignments\Assignment 5\" ; if ($?) { gcc 7.c
-o 7 } ; if ($?) { .\7 }

Enter a number: 9

The first 9 even natural numbers in reverse order are:

18    16    14    12    10    8    6    4    2

PS D:\BootCamp\C Programming\Assignments\Assignment 5>
```

Q8.

The screenshot shows the Visual Studio Code editor with a C program named 8.c. The program prompts the user to enter a number and then prints the squares of the first 8 natural numbers. The terminal output shows the program running successfully with the input 8.

```
8.c
1 #include<stdio.h>
2 int main()
3 {
4     int i = 1, num;
5     printf("\nEnter a number: ");
6     scanf("%d", &num);
7     printf("\nThe squares of first %d natural numbers are: \n\n", num);
8
9     while (i <= num)
10    {
11        printf("%d \t", i*i);
12        i++;
13    }
14
15    printf("\n\n");
16    return 0;
17 }
```

Terminal Output:

```
Windows PowerShell
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https://aka.ms/PSWindows

PS D:\BootCamp\C Programming\Assignments\Assignment 5> cd "d:\Boo
tCamp\C Programming\Assignments\Assignment 5\" ; if ($?) { gcc 8.
c -o 8 } ; if ($?) { .\8 }

Enter a number: 8

The squares of first 8 natural numbers are:

1    4    9    16    25    36    49    64

PS D:\BootCamp\C Programming\Assignments\Assignment 5>
```

Q9.

The screenshot shows a Visual Studio Code editor with a C file named 9.c. The code is as follows:

```
1 #include<stdio.h>
2 int main()
3 {
4     int i = 1, num;
5     printf("\nEnter a number: ");
6     scanf("%d", &num);
7     printf("\nThe cubes of first %d natural numbers are: \n\n", num);
8
9     while (i <= num)
10    {
11        printf("%d \t", i*i*i);
12        i++;
13    }
14
15    printf("\n\n");
16    return 0;
17 }
```

The terminal window on the right shows the execution of the program. It prompts the user to enter a number, and when 7 is entered, it displays the cubes of the first 7 natural numbers: 1, 8, 27, 64, 125, 216, and 343.

```
Windows PowerShell
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https://aka.ms/PSWindows

PS D:\BootCamp\C Programming\Assignments\Assignment 5> cd "d:\Bo
otCamp\C Programming\Assignments\Assignment 5\" ; if ($?) { gcc
9.c -o 9 } ; if ($?) { .\9 }

Enter a number: 7

The cubes of first 7 natural numbers are:

1      8      27      64      125      216      343

PS D:\BootCamp\C Programming\Assignments\Assignment 5> 
```

Q10.

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

```
1 #include<stdio.h>
2 int main()
3 {
4     int i = 1, num;
5     printf("\nEnter a number: ");
6     scanf("%d", &num);
7     printf("\nThe multiplication table of %d is: \n\n", num);
8     while (i <= 10)
9     {
10        printf("%d x %d = %d \n", num, i, num * i);
11        i++;
12    }
13
14    printf("\n\n");
15    return 0;
16 }
```

The terminal window on the right shows the execution of the program. It prompts the user to enter a number, and when 25 is entered, it displays the multiplication table of 25 for numbers 1 through 10.

```
Windows PowerShell
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ps://aka.ms/PSWindows

PS D:\BootCamp\C Programming\Assignments\Assignment 5> cd "d:\Boo
tCamp\C Programming\Assignments\Assignment 5\" ; if ($?) { gcc 10.c -o
10 } ; if ($?) { .\10 }

Enter a number: 25

The multiplication table of 25 is:

25 x 1 = 25
25 x 2 = 50
25 x 3 = 75
25 x 4 = 100
25 x 5 = 125
25 x 6 = 150
25 x 7 = 175
25 x 8 = 200
25 x 9 = 225
25 x 10 = 250

PS D:\BootCamp\C Programming\Assignments\Assignment 5> 
```