



**Department of Computer Science**

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**OOP Assignment: 01**

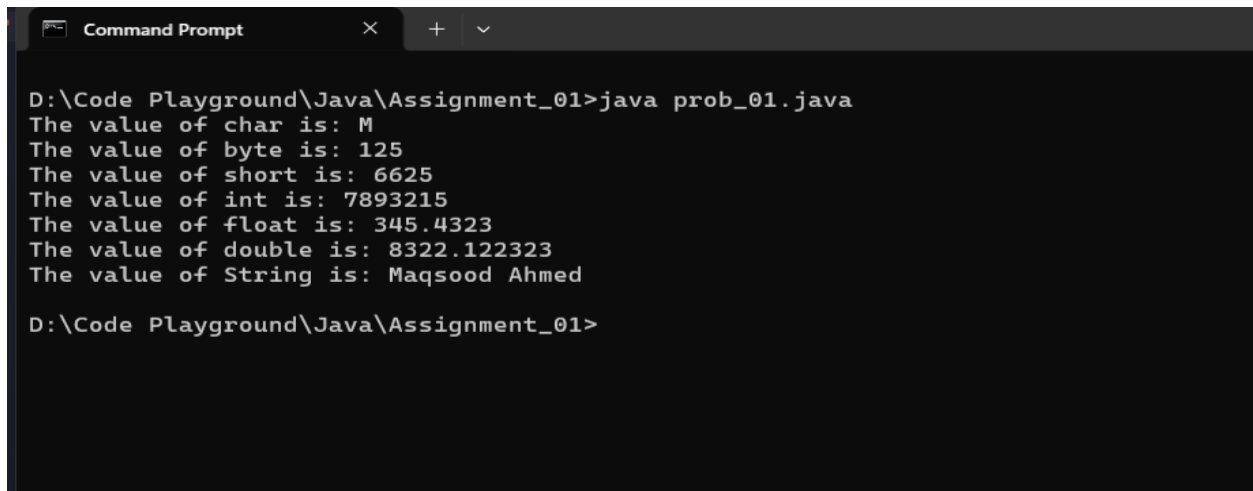
### Problem # 1: [CLO2]

Write a java program that declares variables of all types like byte, short, int, long, float, double etc. and assign any random values to them. Then display all those values with a proper message on console.

#### Source Code:

```
public class prob_01 {  
    public static void main(String args[]) {  
        char i_am_char = 'M';  
        byte i_am_byte = 125;  
        short i_am_short = 6625;  
        int i_am_int = 7893215;  
        float i_am_float = 345.4323f;  
        double i_am_double = 8322.122323;  
        String i_am_string = "Maqsood Ahmed";  
        System.out.println("The value of char is: " + i_am_char);  
        System.out.println("The value of byte is: " + i_am_byte);  
        System.out.println("The value of short is: " + i_am_short);  
        System.out.println("The value of int is: " + i_am_int);  
        System.out.println("The value of float is: " + i_am_float);  
        System.out.println("The value of double is: " + i_am_double);  
        System.out.println("The value of String is: " + i_am_string);  
    }  
}
```

## OUTPUT:



```
D:\Code Playground\Java\Assignment_01>java prob_01.java
The value of char is: M
The value of byte is: 125
The value of short is: 6625
The value of int is: 7893215
The value of float is: 345.4323
The value of double is: 8322.122323
The value of String is: Maqsood Ahmed

D:\Code Playground\Java\Assignment_01>
```

## Problem # 2: [CLO2]

Write a java program that takes an integer input from user and displays hollow rectangle of \* according to that number:

Sample Input: 5

Sample Output:

```
* * * * *
*       *
*       *
*       *
*       *
* * * * *
```

## Source Code:

```
import java.util.Scanner;

public class prob_02 {

    public static void main(String args[]) {

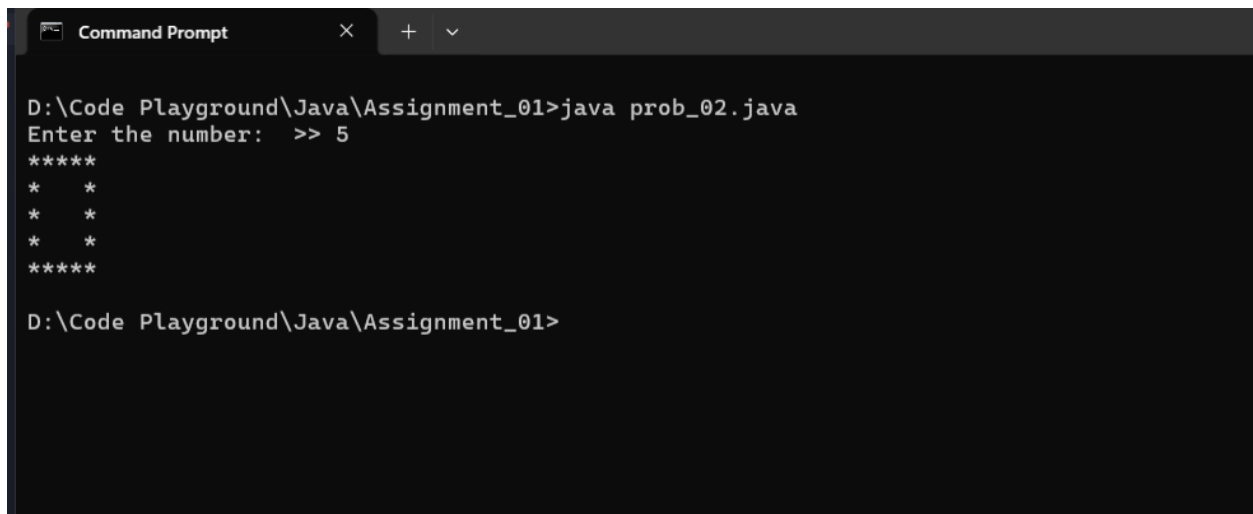
        Scanner input = new Scanner(System.in);

        System.out.print("Enter the number: >> ");

        int num = input.nextInt();
```

```
for(int r = 0; r < num; ++r) {  
    for(int c = 0; c < num; ++c) {  
        if(r == 0 || c == 0 || r == num - 1 || c == num - 1) {  
            System.out.print("*");  
        } else {  
            System.out.print(" ");  
        }  
    }  
    System.out.println(); // for new line  
}  
}
```

## OUTPUT:



```
Command Prompt  
D:\Code Playground\Java\Assignment_01>java prob_02.java  
Enter the number: >> 5  
*****  
*   *  
*   *  
*   *  
*****  
  
D:\Code Playground\Java\Assignment_01>
```

### Problem # 3: [CLO2]

Write a java program that takes a character input from user and decide whether it is a vowel or not. You must use 'switch' statement to check it.

Sample Input: c

Sample Output: The character 'c' is not vowel.

Sample Input: a

Sample Output: The character 'a' is not vowel.

#### Source Code:

```
import java.util.Scanner;

public class prob_03 {

    public static void main(String args[]) {

        Scanner input = new Scanner(System.in);

        System.out.print("Enter the character: >> ");

        char ch = input.next().charAt(0);

        switch(ch) {

            case 'a':

            case 'e':

            case 'i':

            case 'o':

            case 'u':

                System.out.println("The character '" + ch + "' is vowel");

                break;

            default:

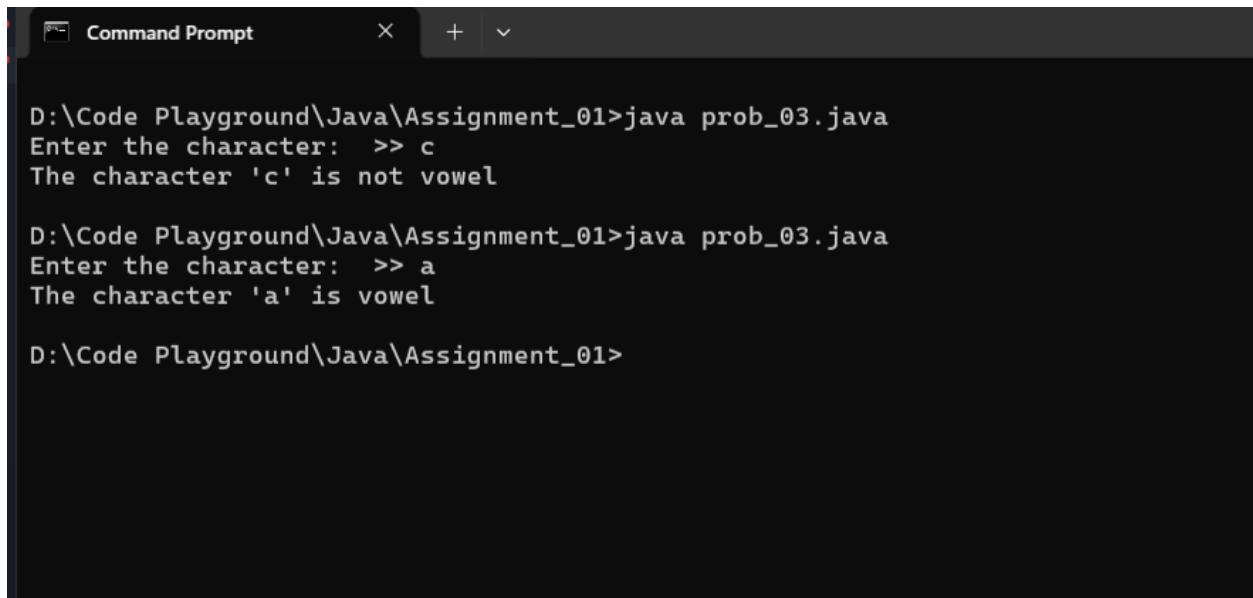
                System.out.println("The character '" + ch + "' is not vowel");

        }

    }

}
```

## OUTPUT:



```
D:\Code Playground\Java\Assignment_01>java prob_03.java
Enter the character: >> c
The character 'c' is not vowel

D:\Code Playground\Java\Assignment_01>java prob_03.java
Enter the character: >> a
The character 'a' is vowel

D:\Code Playground\Java\Assignment_01>
```

### Problem # 4: [CLO2]

Write a java program that takes a String input from user and displays it in reverse order.

Sample Input: Hello

Sample Output: olleH

### Source Code:

```
import java.util.Scanner;

public class prob_04 {

    public static void main(String args[]) {

        Scanner input = new Scanner(System.in);

        System.out.print("\nEnter the string: ");

        String str = input.nextLine();

        System.out.print("The reversed string is: ");

        for(int i = str.length() - 1; i >= 0; --i) {

            System.out.print(str.charAt(i));

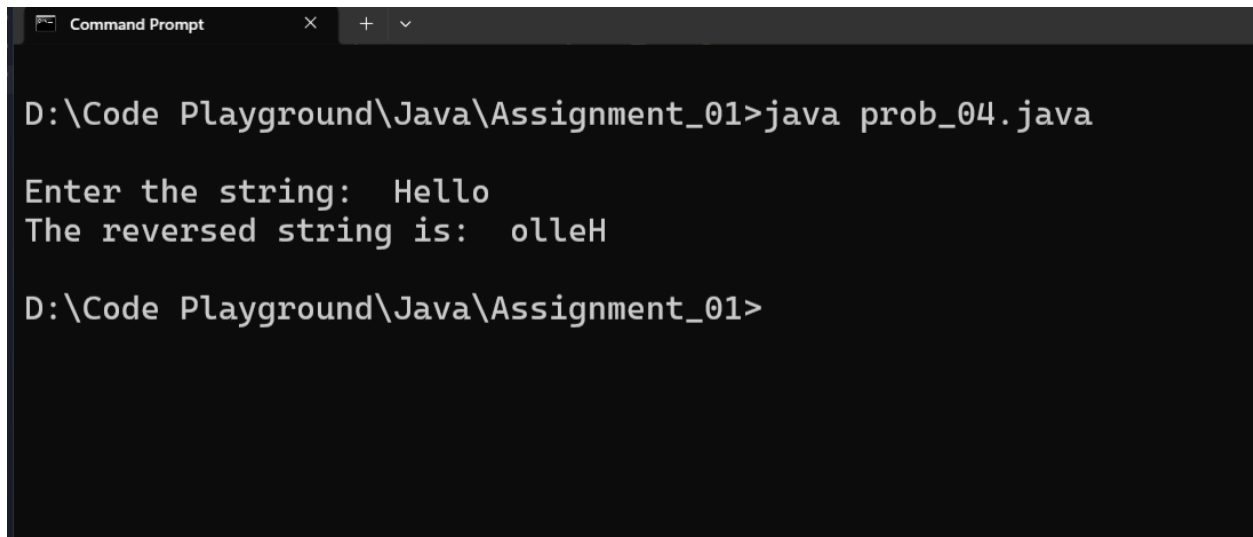
        }

        System.out.println(); // for new line

    }

}
```

## OUTPUT:



```
Command Prompt
D:\Code Playground\Java\Assignment_01>java prob_04.java

Enter the string: Hello
The reversed string is: olleH

D:\Code Playground\Java\Assignment_01>
```

## Problem # 5: [CLO2]

Write a java program to take a number as input from the user and display all of its digits on new lines:

Sample Input: 145

Sample Output:

1  
4  
5

## Source Code:

```
import java.util.Scanner;

public class prob_05 {

    public static void main(String args[]) {

        Scanner input = new Scanner(System.in);

        System.out.print("Enter the number: >> ");

        int num = input.nextInt();

        String stringNum = Integer.toString(num);

        for(int i = 0; i < stringNum.length(); i++) {

            System.out.println(stringNum.charAt(i));

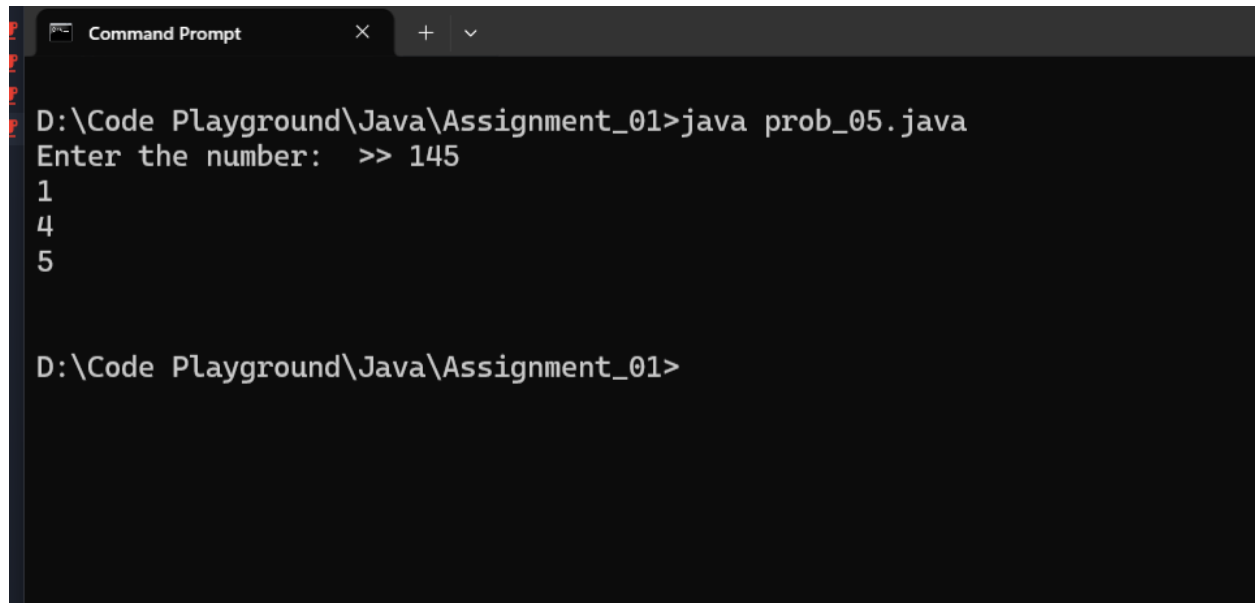
        }

    }

}
```

```
        System.out.println(); // for new line
    }
}
```

## OUTPUT:

A screenshot of a Windows Command Prompt window. The title bar at the top says "Command Prompt" with standard window controls. The command prompt shows the directory "D:\Code Playground\Java\Assignment\_01" and the command "java prob\_05.java" being executed. The program prompts the user to "Enter the number:" and the input "145" is shown. The program then outputs the digits "1", "4", and "5" on separate lines. The prompt returns to "D:\Code Playground\Java\Assignment\_01>".

```
Command Prompt
D:\Code Playground\Java\Assignment_01>java prob_05.java
Enter the number:  >> 145
1
4
5

D:\Code Playground\Java\Assignment_01>
```

**THE END**