JAVA PROGRAMMING BASCIS

Coding Questions on Data Types:

1. Write a Java program to declare and initialize all eight primitive data types and print their values.

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*C:\Users\waghu\OneDrive\Documents\Java test\PrimitiveDatatype.java - Notepad++

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PrimitiveDatatype.java

```
1  public class PrimitiveDatatype {
2      public static void main(String[] args) {
3          byte byteVar = 100;
4          short shortVar = 30000;
5          int intVar = 100000;
6          long longVar = 10000000000L;
7          float floatVar = 10.5f;
8          double doubleVar = 99.99;
9          char charVar = 'A';
10         boolean booleanVar = true;
11
12         System.out.println("Byte Value: " + byteVar);
13         System.out.println("Short Value: " + shortVar);
14         System.out.println("Int Value: " + intVar);
15         System.out.println("Long Value: " + longVar);
16         System.out.println("Float Value: " + floatVar);
17         System.out.println("Double Value: " + doubleVar);
18         System.out.println("Char Value: " + charVar);
19         System.out.println("Boolean Value: " + booleanVar);
20
21     }
22 }
23     System.out.println("Short Value: " + shortvar);
```

```
C:\Windows\system32\cmd.e:

C:\Users\waghu\OneDrive\Documents\Java test>javac PrimitiveDatatype.java

C:\Users\waghu\OneDrive\Documents\Java test>java  PrimitiveDatatype.java
Byte Value: 100
Short Value: 30000
Int Value: 100000
Long Value: 10000000000
Float Value: 10.5
Double Value: 99.99
Char Value: A
Boolean Value: true

C:\Users\waghu\OneDrive\Documents\Java test>
```

2. Write a Java program that takes two integers as input and performs all arithmetic operations on them.

C:\Users\waghu\OneDrive\Documents\Java test\ArithmeticOperations.java - Notepad++

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ArithmeticOperations.java

```java
import java.util.Scanner;

public class ArithmeticOperations{
    public static void main(String[] args){
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter first integer: ");
        int num1 = scanner.nextInt();

        System.out.print("Enter second integer: ");
        int num2 = scanner.nextInt();

        System.out.println("Addition: " + (num1 + num2));
        System.out.println("Substraction: " + (num1 - num2));
        System.out.println("Multiplication: " + (num1 * num2));
        System.out.println("Division: " + (num1 / num2));

        scanner.close();
    }
}
```

```
C:\Windows\system32\cmd.e:

C:\Users\waghu\OneDrive\Documents\Java test>javac ArithmeticOperations.java

C:\Users\waghu\OneDrive\Documents\Java test>java  ArithmeticOperations.java
Enter first integer: 10
Enter second integer: 30
Addition: 40
Substraction: -20
Multiplication: 300
Division: 0

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```

3. Implement a Java program to demonstrate implicit and explicit type casting.

C:\Users\waghu\OneDrive\Documents\Java test\TypeCasting.java - Notepad++

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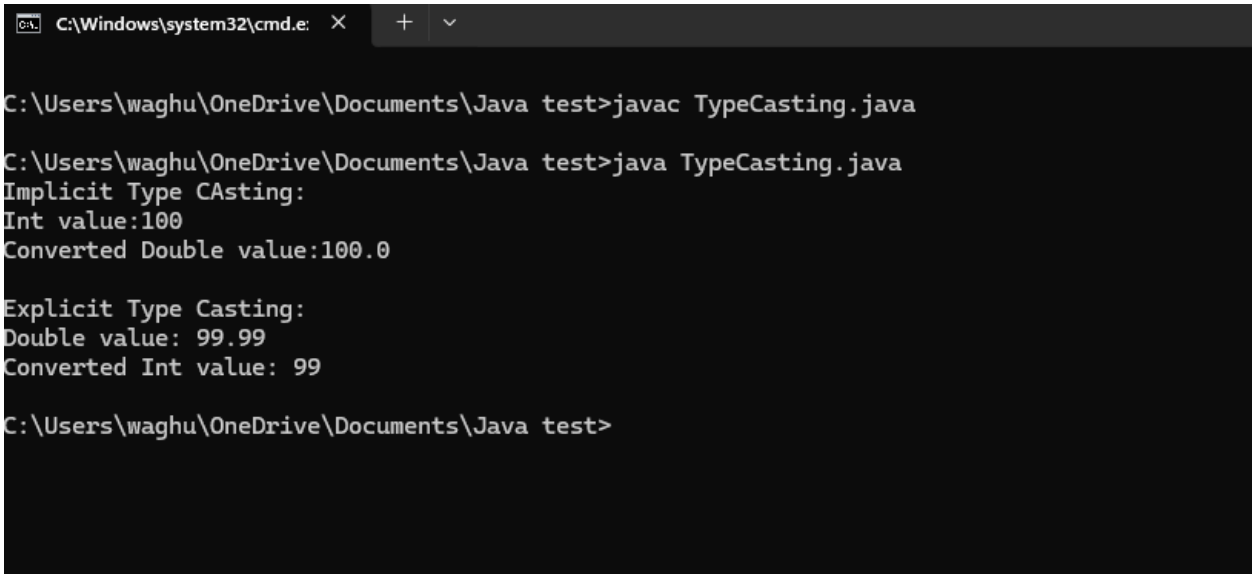
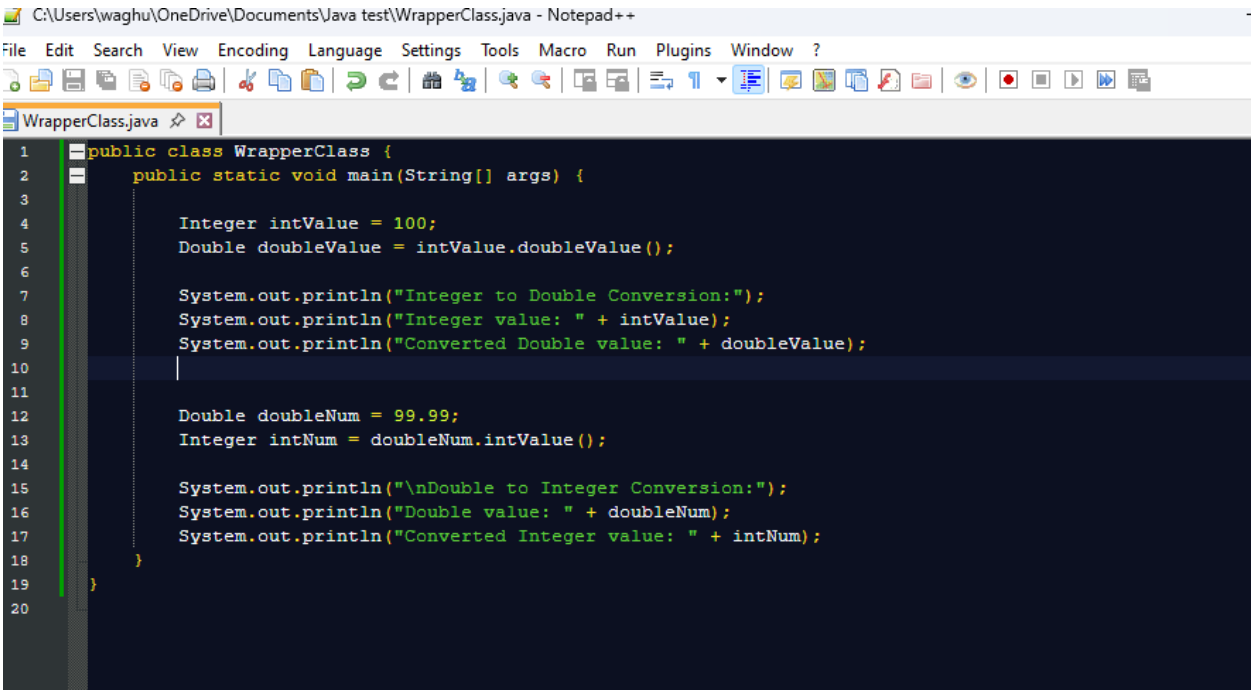
TypeCasting.java

```java
public class TypeCasting {
    public static void main(String[] args){
        int intVal = 100;
        double doubleVal = intVal;

        System.out.println("Implicit Type CAsting:");
        System.out.println("Int value:" + intVal);
        System.out.println("Converted Double value:" + doubleVal);

        double doubleNum = 99.99;
        int intNum = (int) doubleNum;


        System.out.println("\nExplicit Type Casting:");
        System.out.println("Double value: " + doubleNum);
        System.out.println("Converted Int value: " + intNum);

    }
}
```



4. Create a Java program that converts a given integer to a double and vice versa using wrapper classes.



```
C:\Windows\system32\cmd.e:

C:\Users\waghu\OneDrive\Documents\Java test>javac WrapperClass.java

C:\Users\waghu\OneDrive\Documents\Java test>java WrapperClass.java
Integer to Double Conversion:
Integer value: 100
Converted Double value: 100.0

Double to Integer Conversion:
Double value: 99.99
Converted Integer value: 99

C:\Users\waghu\OneDrive\Documents\Java test>
```

5. Write a Java program to swap two numbers using a temporary variable and without using a temporary variable.

SwapNumbers.java

```java
import java.util.Scanner;

public class 50 {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);


        System.out.print("Enter first number: ");
        int num1 = scanner.nextInt();

        System.out.print("Enter second number: ");
        int num2 = scanner.nextInt();


        int temp = num1;
        num1 = num2;
        num2 = temp;

        System.out.println("\nAfter swapping using temporary variable:");
        System.out.println("First number: " + num1);
        System.out.println("Second number: " + num2);


        num1 = num1 + num2;
        num2 = num1 - num2;
        num1 = num1 - num2;

        System.out.println("\nAfter swapping without using temporary variable:");
        System.out.println("First number: " + num1);
        System.out.println("Second number: " + num2);

        scanner.close();
    }
}
```

```
C:\Windows\system32\cmd.e:

C:\Users\waghu\OneDrive\Documents\Java test>javac SwapNumbers.java

C:\Users\waghu\OneDrive\Documents\Java test>java SwapNumbers.java
Enter first number: 50
Enter second number: 10

After swapping using temporary variable:
First number: 10
Second number: 50

After swapping without using temporary variable:
First number: 50
Second number: 10

C:\Users\waghu\OneDrive\Documents\Java test>
```

6. Develop a program that takes user input for a character and prints whether it is a vowel or consonant.

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*C:\Users\waghu\OneDrive\Documents\Java test\VowelorConsonant.java - Notepad++

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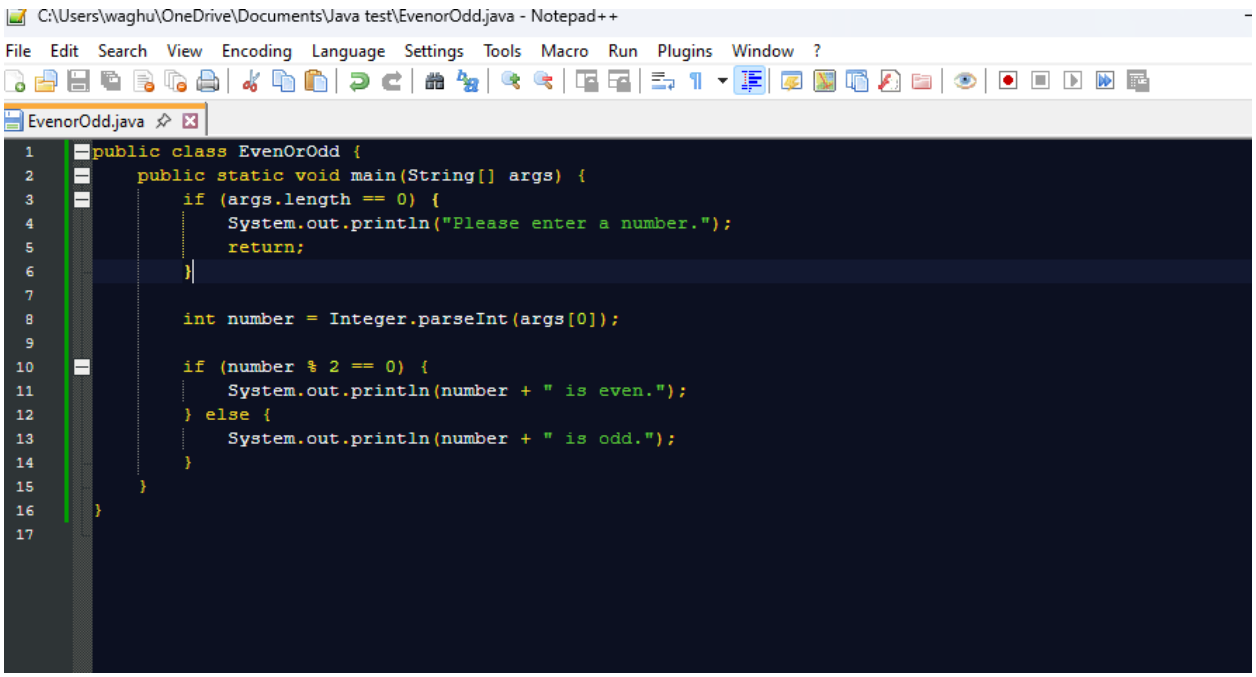
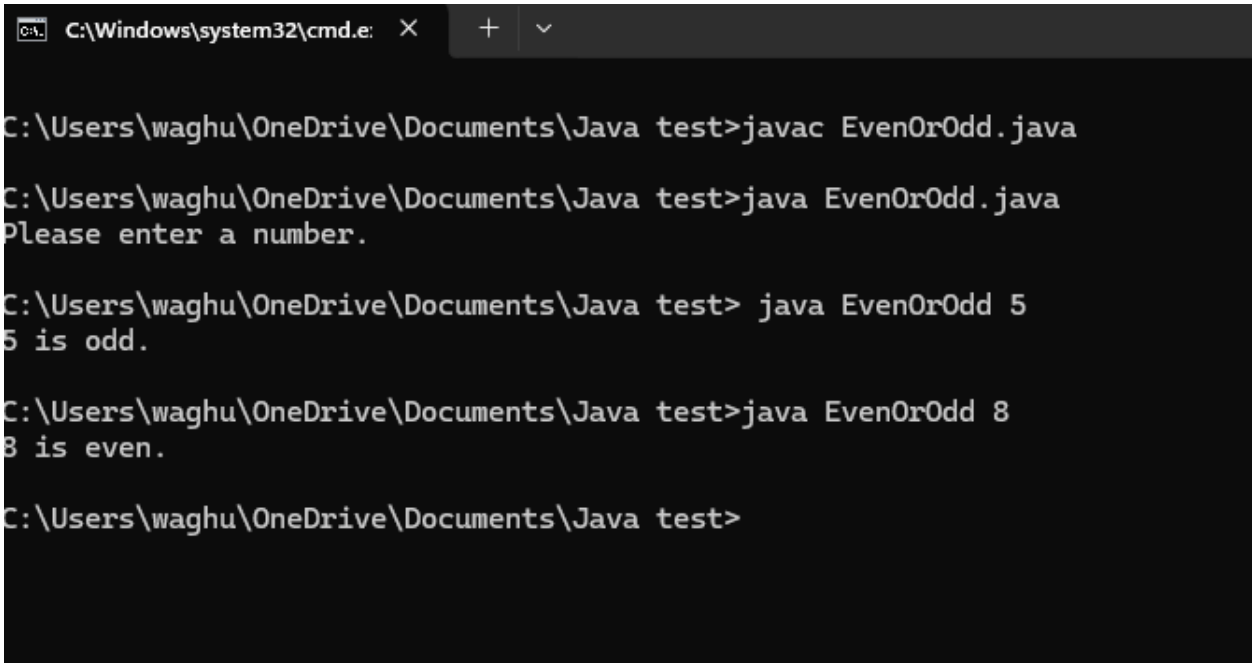
VowelorConsonant.java

```java
import java.util.Scanner;
public class VowelorConsonant {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);


        System.out.print("Enter a character: ");
        char ch = scanner.next().toLowerCase().charAt(0);


        if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u') {
            System.out.println(ch + " is a vowel.");
        } else if (Character.isLetter(ch)) {
            System.out.println(ch + " is a consonant.");
        } else {
            System.out.println("Invalid input. Please enter an alphabet.");
        }

        scanner.close();
    }
}
```

```
C:\Windows\system32\cmd.e:

C:\Users\waghu\OneDrive\Documents\Java test>javac VowelorConsonant.java

C:\Users\waghu\OneDrive\Documents\Java test>java VowelorConsonant.java
Enter a character: a
a is a vowel.

C:\Users\waghu\OneDrive\Documents\Java test> java VowelorConsonant.java
Enter a character: b
b is a consonant.

C:\Users\waghu\OneDrive\Documents\Java test>
```

7. Create a Java program to check whether a given number is even or odd using command-line arguments.




C:\Windows\system32\cmd.e:
C:\Users\waghu\OneDrive\Documents\Java test>javac EvenOrOdd.java
C:\Users\waghu\OneDrive\Documents\Java test>java EvenOrOdd.java
Please enter a number.
C:\Users\waghu\OneDrive\Documents\Java test> java EvenOrOdd 5
5 is odd.
C:\Users\waghu\OneDrive\Documents\Java test>java EvenOrOdd 8
8 is even.
C:\Users\waghu\OneDrive\Documents\Java test>