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TP01

❖ Lab01.1. Hello One's Name

Implement an application Java that displays "Hello <your_name>!" where <your_name>
represents your own name. Example, in case your name is: Visal, then:

---My Code

```java
public class TP01_1{
    public static void main(String[] args){
        System.out.println("Hello, My name is chan suvannet");
    }
}
```

---Output

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

Hello, My name is chan suvannet

C:\$NET♥\File\ITC_java_C\Lap01>
```

❖ Lab01.2. Display a Paragraph

Implement an application Java that displays the following output:

---My Code

```java
public class TP01_2 {
    public static void main(String[] args){
        System.out.println("\\n");
        System.out.println("\\t");
        System.out.println("\\'");
        System.out.println("\\\"");
        System.out.println("\\\\");
        System.out.println("//");
        System.out.println("/*...*/");
        System.out.println("\"\"\"\n\tText here\n\"\"\"");

    }
}
```

---Output

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

\n
\t
\'
\"
\\
//
/*...*/
"""
        Text here
"""

C:\$NET♥\File\ITC_java_C\Lap01>
```

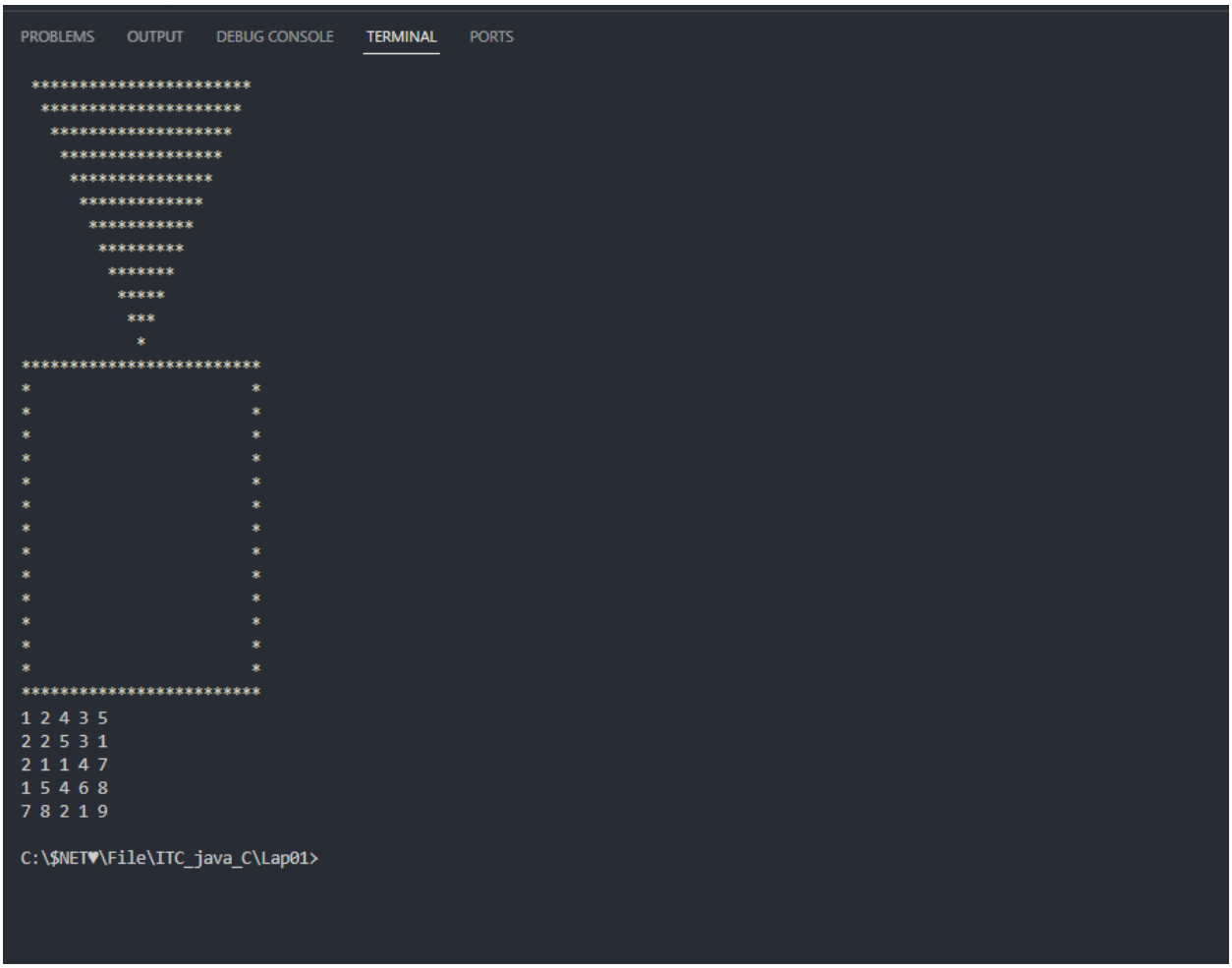
❖ Lab01.3. Asterisks

Write a program in Java to display shapes as below:

---My Code

```java
public class TP01_3 {
    public static void main(String[] args){

        System.out.println("************************");
        System.out.println(" ***********************");
        System.out.println("  *********************");
        System.out.println("   *******************");
        System.out.println("    *****************");
        System.out.println("     ***************");
        System.out.println("      *************");
        System.out.println("       ***********");
        System.out.println("        *********");
        System.out.println("         *******");
        System.out.println("          *****");
        System.out.println("           ***");
        System.out.println("            *");

        System.out.println("************************");
        System.out.println("*                      *");
        System.out.println("*                      *");
        System.out.println("*                      *");
        System.out.println("*                      *");
        System.out.println("*                      *");
        System.out.println("*                      *");
        System.out.println("*                      *");
        System.out.println("*                      *");
        System.out.println("*                      *");
        System.out.println("*                      *");
        System.out.println("*                      *");
        System.out.println("*                      *");
        System.out.println("************************");

        System.out.println("1 2 4 3 5");
        System.out.println("2 2 5 3 1");
        System.out.println("2 1 1 4 7");
        System.out.println("1 5 4 6 8");
        System.out.println("7 8 2 1 9");
    }
}

```

---Output



❖ Lab01.4. Table

Write a program in Java to display tables as below with values declared by variables:

---My Code

```java
public class TP01_4 {
    public static void main(String[] args) {
        System.out.println("*Number 1");
        String line = "+----------------+---------+--------------------+-----+";
        String country = "| Country        | Name    | Profession         | Age |";
        String germany = "| Germany        | Michael | Computer Engineer | 19  |";
        String england = "| England        | Robert  | Artist             | 34  |";
        String uk = "| United Kingdom | Julia   | Designer           | 42  |";
        String us = "| United States  | Jo      | Actor              | 21  |";

        System.out.println(line);
        System.out.println(country);
        System.out.println(line);
        System.out.println(germany);
        System.out.println(line);
        System.out.println(england);
        System.out.println(line);
        System.out.println(uk);
        System.out.println(line);
        System.out.println(us);
        System.out.println(line);

        System.out.println("\n**Number 2");
        // 2 8
        String a = "    " + "|   " + 1 + "|   " + 2 + "|   " + 3 + "|   " + 4 + "|   " + 5 + "|   " + 6 + "|   " + 7
                + "|   " + 8 + "|   " + 9 + "|   " + 10 + "|   ";

        String b = "   " + 1 + "|   " + 1 + "|   " + 2 + "|   " + 3 + "|   " + 4 + "|   " + 5 + "|   " + 6 + "|   " + 7
                + "|   " + 8 + "|   " + 9 + "|   " + 10 + "|   ";

        String c = "   " + 2 + "|   " + 2 + "|   " + 4 + "|   " + 6 + "|   " + 8 + "|  " + 10 + "|  " + 12 + "|  " + 14
                + "|  " + 16 + "|  " + 18 + "|   " + 20 + "|   ";

        String d = "   " + 3 + "|   " + 3 + "|   " + 6 + "|   " + 9 + "|  " + 12 + "|  " + 15 + "|  " + 18 + "|  " + 21
                + "|  " + 24 + "|  " + 27 + "|   " + 30 + "|   ";

        String e = "   " + 4 + "|   " + 4 + "|   " + 8 + "|  " + 12 + "|  " + 16 + "|  " + 20 + "|  " + 24 + "|  " + 28
                + "|  " + 32 + "|  " + 36 + "|   " + 40 + "|   ";

        String f = "   " + 5 + "|   " + 5 + "|  " + 10 + "|  " + 15 + "|  " + 20 + "|  " + 25 + "|  " + 30 + "|  " + 35
                + "|  " + 40 + "|  " + 45 + "|   " + 50 + "|   ";
        String dot = "-----------------------------------------------------------";
        System.out.println(a);
        System.out.println(dot);
        System.out.println(b);
        System.out.println(c);
        System.out.println(d);
        System.out.println(e);
        System.out.println(f);
    }

}

```

❖ Lab01.5. String

---My Code

```java

public class TP01_5 {
    public static void main(String[] args){
        // A. Write a program using a String function to print/check the length of a text "I Love My Hometown":
        String text = "I Love my Home country";
        int lengthText = text.length();
        System.out.println("***Answer A: ");
        System.out.println("The length is: " + lengthText);

        //B. Write a program using a String function to cut the word "my little country" from a text of "I love my little country":
        String cutText = text.substring(7, 22);
        System.out.println("***Answer B: ");
        System.out.println("Cut Text: "+cutText);

        //C. Write a program using a String function to find the index position of vowels in a text of "Hi Students!":
        String textNumberC ="Hi Students";
        System.out.println("***Answer C: ");
        String vowel = "aeiouAEIOU";
        System.out.println(textNumberC);
        for(int i = 0; i<textNumberC.length(); i++){
            char ch = textNumberC.charAt(i);
            if(vowel.indexOf(ch) != -1){
                System.out.println("\"" + ch + "\" is at index: " + i);
            }
        }

        //D. Write a program using a String function check if two texts are equal
        String text1 = "Hi Students!";
        String text2 = "Students";
        String text3 = "Hi Students!";
        boolean isEqual1and2 = text1.equals(text2);
        boolean isEqual1and3 = text1.equals(text3);
        System.out.println("***Answer D: ");
        System.out.println("Text1 is equal to Text2: " + isEqual1and2);
        System.out.println("Text1 is equal to Text3: " + isEqual1and3);

        //E. Write a program using a String function check if a text contains in another text
        String text4 = "Hi Students!";
        String text5 = "Students";
        String text6 = "Hello";

        boolean containsText2 = text4.contains(text5);
        boolean containsText3 = text4.contains(text6);
        System.out.println("***Answer E: ");
        System.out.println("Text4 contains Text5: " + containsText2);
        System.out.println("Text4 contains Text6: " + containsText3);
    }
}
```

---Output

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

***Answer A:
The length is: 22
***Answer B:
Cut Text: my Home country
***Answer C:
Hi Students
"i" is at index: 1
"u" is at index: 5
"e" is at index: 7
***Answer D:
Text1 is equal to Text2: false
Text1 is equal to Text3: true
***Answer E:
Text4 contains Text5: true
Text4 contains Text6: false

C:\$NET♥\File\ITC_java_C\Lap01>
```

❖ Lab01.6. Class & Object

Create a model following objects:

- Employee
- Car
- BankAccount
- Video

***Employee

1. Create a model of "Employee" class

	Datatype	Variable Name
Employee	String	name
	int	id
	String	position
	double	salary
	int	timeWork

2. Create objects from "Employee" class

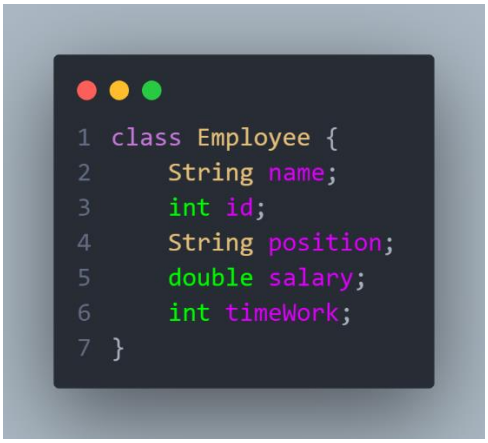
Object 1

Variable	Value
name	Chan Suvannet
id	1234
position	Hacker
salary	150.99
timeWork	8

Object 2

Variable	Value
name	Hai kimsreng
id	1234
position	Hacker
salary	150.99
timeWork	5

---My code



```
class Employee {
    String name;
    int id;
    String position;
    double salary;
    int timeWork;
}
```

***Car

1. Create a model of “Car” class

	Datatype	Variable Name
Car	String	model
	String	color
	int	year
	double	price
	String	madeFrom

2. Create objects from “Car” class

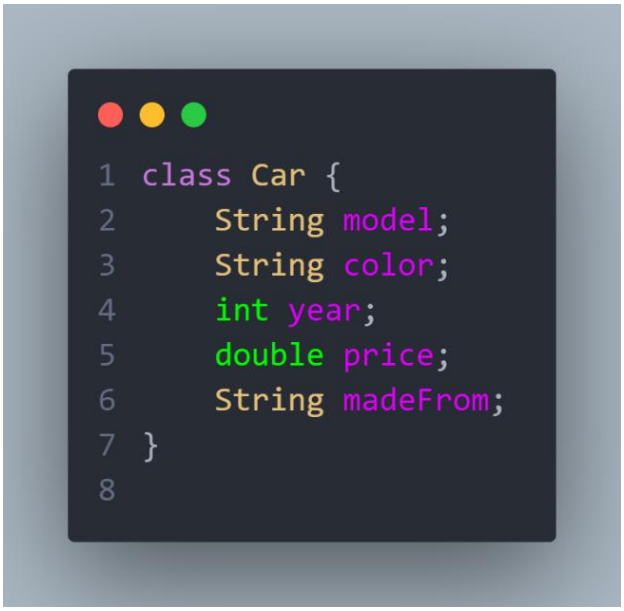
Object 1

Variable	Value
model	Lamborghini
color	pink
year	2023
price	25.99
madeFrom	USA

Object 2

Variable	Value
model	GTR R35
color	yellow
year	2021
price	14.99
madeFrom	USA

---My code



```
class Car {
    String model;
    String color;
    int year;
    double price;
    String madeFrom;
}
```

***BankAccount

1. Create a model of "BankAccount" class

	Datatype	Variable Name
BankAccount	String	AccountHolder
	String	AccountNumber
	double	balance
	double	withdraw
	double	deposit

2. Create objects from "BankAccount" class

Object 1

Variable	Value
AccountHolder	Chan Suvannet
AccountNumber	12345678
balance	100
withdraw	10
deposit	50

Object 2

Variable	Value
AccountHolder	Hai kimsreng
AccountNumber	43504323
balance	100
withdraw	10
deposit	50

---My code

```java
class BankAccount {
    String AccountHolder;
    String AccountNumber;
    double balance;
    double withdraw;
    double deposit;
    // Method to withdraw money
    public void withdraw(double amount) {
        if (amount > 0 && amount <= balance) {
            balance -= amount;
            System.out.println("Withdrawal of $" + amount + " successful.");
        } else {
            System.out.println("Withdrawal failed. Insufficient funds.");
        }
    }

    // Method to deposit money
    public void deposit(double amount) {
        if (amount > 0) {
            balance += amount;
            System.out.println("Deposit of $" + amount + " successful.");
        } else {
            System.out.println("Invalid deposit amount.");
        }
    }
}
```

***Video

1. Create a model of “Video” class

	Datatype	Variable Name
Video	String	tittle
	String	subtitle
	int	duration
	int	releaseYear
	int	quality

2. Create objects from “Video” class

Object 1

Variable	Value
tittle	Zero to master to become hacker
subtitle	When you finished this course, you will become hacker
duration	120
releaseYear	2023
quality	1080

Object 2

Variable	Value
tittle	OOP course for free
subtitle	The best course for student at itc
duration	60
releaseYear	2023
quality	180

---My code

```
class Video {
    String tittle;
    String subtitle;
    int duration;
    int releaseYear;
    int quality;
}
```

Githup: https://github.com/ChanSuvannet/Lap01.git