LAB 01

Introduction to **Object-Oriented Programming**

Object-Oriented Programming in JAVA

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Lab01 Exercises

❖ 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:

Console Output:

```
Hello Visal!
```

❖ Lab01.2. Display a Paragraph

Implement an application Java that displays the following output:

Console Output:

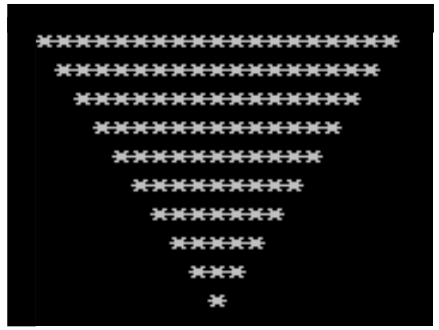
```
\n                                                  Line break.
\t                                                  Tabulation.
\'                                                  Single Quote.
\"                                                  Double Quote.
\\                                                  \ Sign.
\\\\                                                \\ Sign.
//                                                  Line Comment.
/* ... */                                           Block Comment.
"""

                                                    Text block.
"""
```

Lab01 Exercises

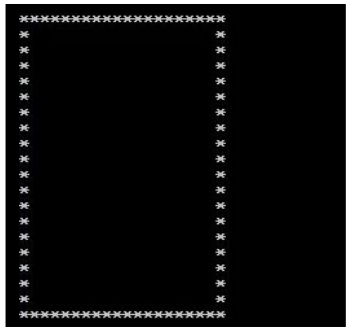
❖ Lab01.3. Asterisks

Write a program in Java to display shapes as below:

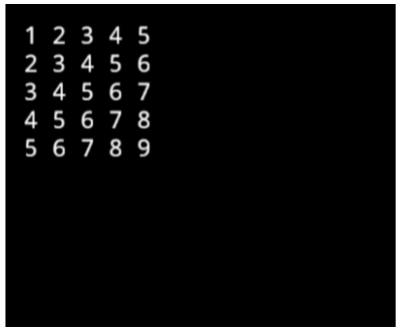
Console Output:



A



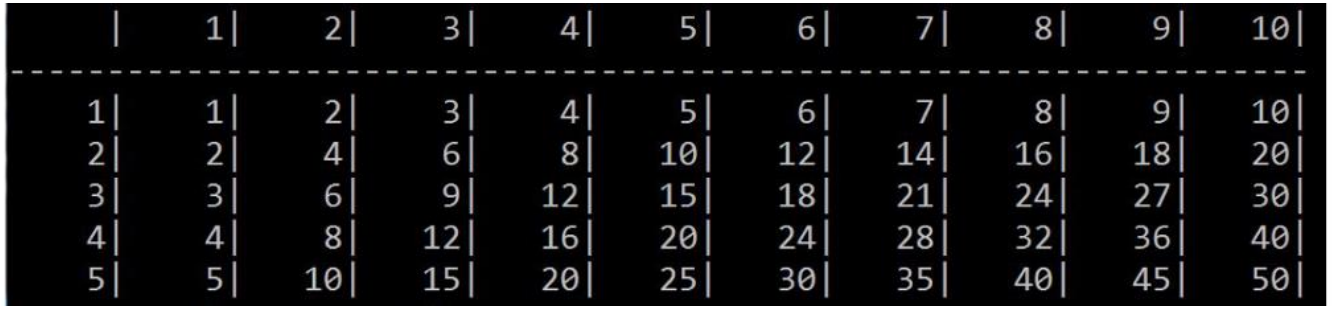
B



C

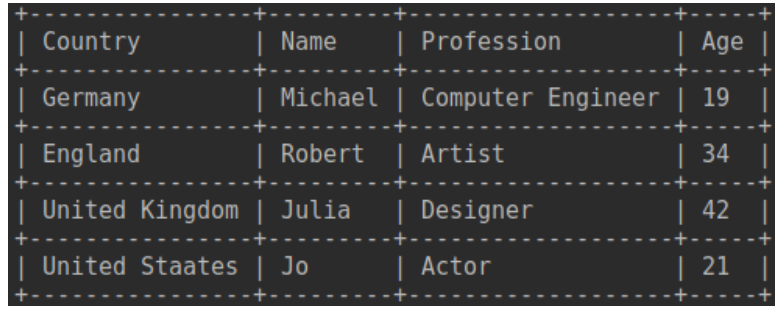
❖ Lab01.4. Table

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



	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50

A



Country	Name	Profession	Age
Germany	Michael	Computer Engineer	19
England	Robert	Artist	34
United Kingdom	Julia	Designer	42
United Staates	Jo	Actor	21

B

Lab01 Exercises

❖ Lab01.5. String

A. Write a program using a String function to print/check the length of a text "**I Love My Hometown**":

```
String text = "I Love y Home Country";
```

Console Output:

```
Text length is: 22
```

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 text = "I love my little country";
```

Console Output:

```
Result: my little country
```

C. Write a program using a String function to find the index position of vowels in a text of "**Hi Students!**":

Console Output:

```
“i” is at index: 1
“u” is at index: 5
“e” is at index: 7
```

Lab01 Exercises

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!";
```

Console Output:

```
Text1 is equal to Text2: False
Text1 is equal to Text3: True
```

E. Write a program using a String function check if a text contains in another text

```
String text1 = "Hi Students!";
String text2 = "Students";
String text3 = "Teacher";
```

Console Output:

```
Text1 contains Text2: True
Text1 contains Text3: False
```

Lab01 Exercises

❖ Lab01.6. Class & Object

Create a model following objects:

- Employee
- Car
- BankAccount
- Video

1. Implement a class model with at least 5 different attributes
2. Create at least 2 objects with values assigned
3. Implement a Java Class based on the model

Follow the following example to do your exercise:

☞ **Example**: "Student" object

1. Create a model of "**Student**" class

	Datatype	Variable Name
Student	int	studentID
	String	name
	char	gender
	int	age
	double	score
	int	year

2. Create objects from "**Student**" class

Object 1

Variable	Value
studentID	0002
name	Makara
gender	F
age	17
score	88.3
year	4

Object 2

Variable	Value
studentID	0001
name	Tola
gender	M
age	15
score	98.3
year	3

3. Implement "**Student**" class in Java

```
1  class Student {
2      int studentID;
3      String name;
4      char gender;
5      int age;
6      double score;
7      int year;
8  }
```

Good luck 👌

✋ How to submit my TP???

👉 Screenshot/Save all your answers as a single **pdf** file, Java files and submit to the class