

LAB 03 (Library Functions + char, String Variables)

اور جو شخص محنت کرتا ہے تو اپنے ہی فائدے کے لئے محنت کرتا ہے۔ اور خدا تو سارے جہان سے بے پروا ہے ہے (آیت نمبر ۶ سورہ ۲۹)

A dream doesn't become reality through magic; it takes sweat, determination and hard work. Colin Powell

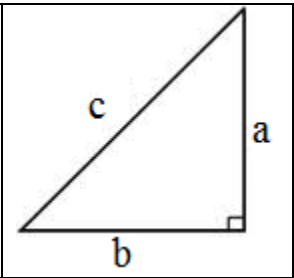
Hope you have enjoyed previous labs, and InshaAllah enjoy this lab also. It will be better if you have a printout of Lecture Notes 5 with you or you may open documentation of Math and String class from these notes on your screen.

Task 1: Print first four powers of 2, 3, and 4 in separate lines using power function from Math class. Note: Use escape sequence to align output, as shown	<table style="margin: auto;"> <tr><td>2</td><td>4</td><td>8</td><td>16</td></tr> <tr><td>3</td><td>9</td><td>27</td><td>81</td></tr> <tr><td>4</td><td>16</td><td>64</td><td>256</td></tr> </table>	2	4	8	16	3	9	27	81	4	16	64	256
2	4	8	16										
3	9	27	81										
4	16	64	256										

Task 2: Write program to take two sides of right angle triangle as input and calculate hypotenuse using *Pythagoras'* theorem: $c^2 = a^2 + b^2$

Sample Run:
 Enter A: 3
 Enter B: 4
 Hypotenuse: 5

Note: Take double as data type of variables, use *nextDouble* method for input. Also you have to use *power and square root* function from Math class



Task 3: Write program to calculate **Net Salary** where **Basic Salary** is input of the program. Procedure to calculate salary is:

- find house rent by multiplying basic salary with 0.45
- find medical allowance by multiplying basic salary with 0.10
- Add above in basic salary to calculate **Gross Salary**
- find provident fund by multiplying basic salary with 0.05
- Deduct provident fund from basic salary to calculate **Net Salary**

Use variables to store all values. Show output as shown:

Basic Salary:25000	
Salary Details	
Basic Salary:	25000.0
Add:	
House Rent:	11250.0
Medical Allowance:	2500.0
Gross Salary:	38750.0
Less:	
Provident Fund:	1250.0
Net Salary:	37500.0

Task 4: Complete code written inside main function to show output given on right hand side?

```
String space="          ";
System.out.println(space.substring(0,0)+"*");
```

```
*
*
*
*
*
```

Task 5: Complete code written inside main function to show output given on right hand side?

```
String s="This is third lab";
int pos1=0,pos2;
pos2=s.indexOf(' ');
System.out.println(s.substring(pos1,pos2));
pos1=pos2+1;
pos2=s.indexOf(' ',pos1);
System.out.println(s.substring(pos1,pos2));
```

```
This
is
third
lab
```