Homework 02

[Math & String class Functions]

Note 1: Homework is given assuming that you have read lecture notes 05 and understand the codes given in the notes; however, if unfortunately you don’t have lecture notes still you can try.

Note 2: You may have to use some functions from Math or String class not discussed in class. To use them you may see documentation given at the end of lecture notes 5 or Google it.

Note 3: If you are unable to do any task move to next. If you can perform any task partially do it.

Task 1
Write first five powers of 2 using power function and show output as given or right hand side?

<table>
<thead>
<tr>
<th>2^1</th>
<th>2^2</th>
<th>2^3</th>
<th>2^4</th>
<th>2^5</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>4</td>
<td>8</td>
<td>16</td>
<td>32</td>
</tr>
</tbody>
</table>

Task 2
Create a program to take r, theta (30, 45, 60, 90 etc.) as input from user. Calculate and show following?

Area of Square: \( r^2 \)

Area of Circle: \( \pi r^2 \)

Area of Sector: \( \frac{1}{2} r^2 \theta \): For this use Math.toRadians function see

Task 3
Create a program to take theta (in degrees) as input. Show sin, cos and tan ?
If your output is not correct again use Math.toRadians function to convert theta in radians

Task 4
String s = “welcome”  
Use print statements using substring function to show output as shown on right hand side.

Task 5
String s = “welcome”  
Use print statements using charAt function to show output as shown on right hand side. There are spaces in between letters.

Task 6
String s = “Welcome”  
Show s as it is, in upper case and lower case. See function toLower & toUpper in String class

Task 7
String s1=”Welcome”; // Use concat function s1.concat(“ MIT”); and print s1