University of Asia Pacific

Department of Computer Science & Engineering

CSE 204: Object Oriented Programming-I Lab: Java Lab

Assignment 1: Basic Java Problem Solving

Question 1. Take the length of the opposite side and adjacent side as input in meters in your java program. Print the length of the hypotenuse in feet, upto 4 decimal places.

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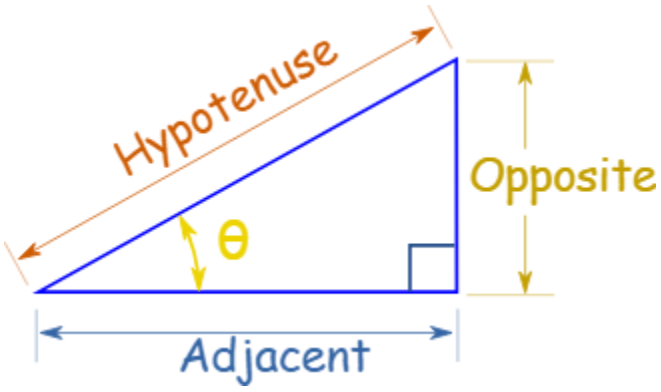

Sample Input	Sample Output
5 12	42.6509
6 8	32.8084
3 4	16.4042

Question 2: Write a program to take a year as input. Print how many years it is away from being a leap year.

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Sample Input	Sample Output
2000	0
2033	3
2100	4
1600	0

Explanation :
Sample Input 1: 2000 is divisible by 4 and not divisible by 100; so it is a leap year itself.
Sample Input 2: 2033 is not divisible by 4; the closest leap year to it is 2036. 2036-2033=3
Sample Input 3: 2100 is divisible by 4 and divisible by 100; but not divisible by 400. so it is not a leap year. The next leap year is 2104.

Question 3. Based on a given integer input *n*, print a *nxn* pattern of the following nature. Use the tab character instead of space for separating the numbers.

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Sample Input	Sample Output
1	1
2	1 2 3 4
3	1 2 3 4 5 6 7 8
4	1 2 3 4 4 5 6 7 8 9 10 11

Question 4: Let *n* be the number of rows and the number of columns of a square matrix *A*. Take *n* and *A* as input. Print the multiple of all of its secondary diagonal and non-diagonal elements.

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Sample Input	Sample Output
4 1 2 3 7 4 5 6 8 9 10 11 12 13 14 15 16	129816400896000

Explanation:
Secondary diagonal elements: 13, 10, 6, 7
Non-diagonal elements: 2, 3, 7, 6, 8, 12, 4, 9, 10, 13, 14, 15
Multiple: 13*10*6*7*2*3*7*6*8*12*4*9*10*13*14*15 = 129816400896000