Faculty of Computer Science and Engineering

GIK Institute of Engineering Sciences and Technology

CS-323 :: Object Oriented Analysis and Design (Spring 2022)

Assignment # 1

Due Date: Thursday, February 24, 2022	**Total Points = 50**

- This homework is comprised of three tasks.
- Upload on MS Teams a zip archive named hw01_[your_reg_no].zip (where [your_reg_no] is replaced with your Reg No) with one answer-folder for each homework task (names hw01-1, hw01-2, hw01-3).

Question 1: *hw01-1* **[10 Points]**

- Write a Java program to compute the base area, surface area, and volume of a cylinder (https://en.wikipedia.org/wiki/Cylinder).
- The radius r be 4cm and stored in a variable r
- The height h be 3cm and stored in a variable h
- First, the base area should be computed, stored in a variable Ab, and printed
- Second, the volume should be computed, stored in a variable V, and printed
- Third, the surface area should be computed, stored in a variable As, and printed
- **Do not use Eclipse**, write the program with a text editor, compile it with `javac` and run it with `java` in the console/terminal
- The answer-folder for this task contains both the source code (.java) and compiled (.class) file.

Question 2: *hw01-2* **[20 Points]**

Convert the program in Question 1 into a class "Cylinder" with variable names of your choice and its methods "calculateBaseArea", calculateVolume" and "calculateSurfaceArea". Call these methods to print the values.

The answer-folder for this task contains the source code (.java)

Question 2: *hw01-3* **[20 Points]**

Convert the program in Question 2 by taking values of the radius and height from the user. Apply "Exception Handling" mechanism in your code. Output should be the same as required in questions 1 and 2.

The answer-folder for this task contains the source code (.java)