

SIR SYED UNIVERSITY OF ENGINEERING & TECHNOLOGY
COMPUTER SCIENCE & INFORMATION TECHNOLOGY DEPARTMENT
Spring 2021

Object Oriented Programming (CS-127)

Assignment 2

Semester: II

Batch: 2020F

Max Marks: 3

Instruction:

- Attempt all questions

[Question-1]

Write an inheritance hierarchy for classes Quadrilateral, Trapezoid, Parallelogram, Rectangle and Square. Use Quadrilateral as the base class of the hierarchy. Make the hierarchy as deep (i.e., as many levels) as possible. Specify the instance variables, properties and methods for each class. The private instance variables of Quadrilateral should be the x - y coordinate pairs for the four endpoints of the Quadrilateral. Write an app that instantiates objects of your classes and outputs each object's area (except Quadrilateral).

[Question-2]

Create a base class, cell phone and derive a class smartphone from it. In cell phone, create protected string member category, and a public method ringing() that outputs a text message like this: "ringing the < category >". In smartphone the constructor should set the category to " Smart ". In the run() method, call ringing() on the smartphone to test the inheritance.

- a) Extent Q2 override the ringing() method in smartphone class to display a different message.
- b) Change the cell phone class to abstract, and make ringing() an abstract method . Derive three new classes from cell phone: android phone, windows phone and ios phone. Each derived class should set the category and override the ringing() method.