

Assignment 1

For the following assignment problem(s):

1. *Prepare class/class hierarchy diagram*
 2. *Prepare the corresponding test data*
 3. *Implement the class hierarchy and application using C++ IDE*
 4. *Finally, test the implementation to pass the test cases*
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1. Write a menu-driven interactive console based C++ application to perform geometric shapes manipulations, as per following requirements:
 - a. There has to be provision for respective calculations of 2-D as well as 3-D shapes. For 2-D shapes area and perimeter and for 3-D shapes surface area and volume etc. parameters are to be calculated by accepting respective input parameters of the individual shape. *(Hint: Create a proper shape classes inheritance hierarchy)*
 - b. Create an application as interactive as possible with user friendly user-interface. Add the facilities in your application, to maintain all shapes data, such that it should be possible to:
 - i. Add a shape(s) as per user requirement
 - ii. search for a particular shape from a set of shapes,
 - iii. update any input parameter of a shape,
 - iv. delete any unwanted shape and
 - v. display all shapes in the order of area or perimeter for 2D shape and volume or surface area for the 3D shapes.