

**North South University**  
**Department of Electrical and Computer Engineering**  
**CSE 215L: Programming Language II Lab**

**Lab – 12: Abstract Class & Interface**

**Objective:**

- To understand abstract class
- To understand interface

**Task:**

1. Implement the following classes and invoke area(), perimeter() for object of Triangle:

<table><tr><th>Polygon</th></tr><tr><td><pre>- numSide: int  /* constructor */ /* accessor-mutator */ + area(): double + perimeter(): double</pre></td></tr></table>	Polygon	<pre>- numSide: int  /* constructor */ /* accessor-mutator */ + area(): double + perimeter(): double</pre>	<table><tr><th>Triangle extends Polygon</th></tr><tr><td><pre>- sideA: double - sideB: double - sideC: double  /* constructor */ /* accessor-mutator */ + area(): double + perimeter(): double</pre></td></tr></table>	Triangle extends Polygon	<pre>- sideA: double - sideB: double - sideC: double  /* constructor */ /* accessor-mutator */ + area(): double + perimeter(): double</pre>
Polygon					
<pre>- numSide: int  /* constructor */ /* accessor-mutator */ + area(): double + perimeter(): double</pre>					
Triangle extends Polygon					
<pre>- sideA: double - sideB: double - sideC: double  /* constructor */ /* accessor-mutator */ + area(): double + perimeter(): double</pre>					

2. Implement the following class and invoke discountedPrice():

<div>&lt;&lt;interface&gt;&gt; Discountable</div> <div>discountedPrice(price: double): double</div>	<div>BestForCustomer</div> <div><ul style="list-style-type: none"><li>- percentage: double</li><li>- threshold: double</li><li>- discount: double</li></ul></div> <div><div>/* constructor, accessor, mutator */</div><div>+ discountedPrice(price: double): double</div></div>
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discountedPrice() from BestForCustomer class will consider both percentage and threshold discount and give the customer the best possible sales price.