



North South University

Department of Electrical and Computer Engineering

CSE 215L: Programming Language II Lab

Lab Manual - 11

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Objective:

- To understand inheritance
- To understand polymorphism

Task-2:

SoccerPlayer

```
- name: String
- age: String
/* constructor */
/* accessor-mutator */
/* toString */
+ void profile()
```

Create Forward, Midfielder, Defender classes by extending the SoccerPlayer class. Now, Forward has property goal while Midfielder has assist and Defender has save. Each property will be display by their profile method of their parent class. Now write a code to create instance of these three classes and store the references in their parent class and display all informations

Task-1:

Shape

```
- name: String
/* constructor */
/* accessor-mutator */
/* toString */
+ int area() // return nil
```

Square extends Shape

```
- length: int
/* constructor */
/* accessor-mutator */
+ int area() // calculate the area
```

<table><tr><td>Rectangle extends Shape</td></tr><tr><td><ul style="list-style-type: none">- length: int- width: int</td></tr><tr><td><pre>/* constructor */ /* accessor-mutator */ + int area() // calculate the area</pre></td></tr></table>	Rectangle extends Shape	<ul style="list-style-type: none">- length: int- width: int	<pre>/* constructor */ /* accessor-mutator */ + int area() // calculate the area</pre>	
Rectangle extends Shape				
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<pre>/* constructor */ /* accessor-mutator */ + int area() // calculate the area</pre>				

In main method, create an array of Shape objects and implement these methods: static void add(Shape [] shapes, Shape s) // to add new shape object into the array static void remove(Shape [] shapes, String n) // remove a shape given its name static Shape search(Shape [] shapes, String n) // search for a shape given its name static void display(Shape [] shapes) // display all shape objects