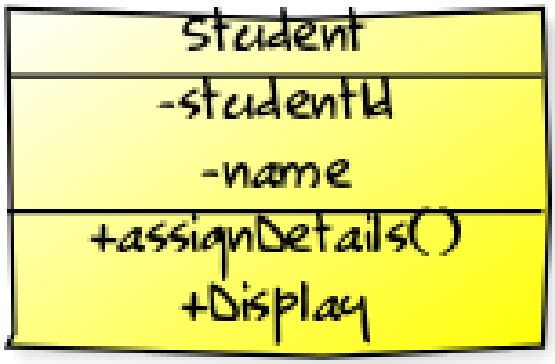
BSc (Hons) in Information Technology
Tutorial – Week 7

IT1050 – Object Oriented Concepts Year 1 - Semester 2, 2018

Exercise 1 – Student Class



Using the Student.h and Student.cpp Implement the Student class

- In Student.h
  1. Add the private properties *studentId* and *name* in the private section.
  2. Add a method called *assignDetails* to assign the studentid and name
  3. Add a method called *display* to display the studentid and name

- In Student.cpp
  1. Implement the Methods *assignDetails()* and *display()*

- In main.cpp
  1. **Do not change anything**

Sample files

Student.cpp

```
#include "Student.h"
#include <iostream>

// Assign studentId and name
Student::assignDetails() {

}

// Display StudentId and Name
Student::display() {

}
```

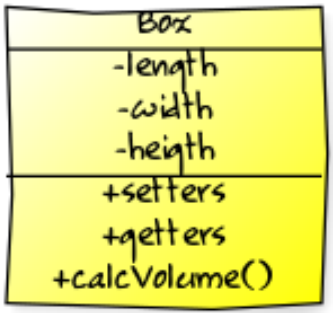
Student.h

```
class Student {
  // private section
  //    int studentId
  //    name <- 20 charcters

  // public section
  //    assignDetails() method declaration
  //    display() method declaration
}
```

main.cpp

```
#include <iostream>
#include "Student.h"
using namespace std;
int main() {

// == DO NOT CHANGE THE MAIN PROGRAM =================
   Student mystd;
   mystd.assignDetails(1212, "Amalinga");
   mystd.display();
//==========================
   return 0;
}
```

Exercise 2 – Student Class



Using the Box.h and Box.cpp Implement the Box class

- In Box.h
  1. Write the prototypes for the setters for length, width and height
  2. Write the prototypes getters for length, width and height

- In Box.cpp
  1. Implement the setters for length, width and height
  2. Implement the getters for length, width and height
  3. Implement the calcVolume() method

- In main.cpp
  1. Create a Box type object called box1
  2. Assign the keyboard input of length, width and height to the box1 object using setters
  3. Do not change any other coding in the main.cpp

Sample files

Box.cpp

#include "Box.h"
 	
// Implement setters and getters
 	
// Implmenet the calcVolume() unction
int Box::calcVolume() {
}

Box.h

```
class Box {
   private:
     int length;
     int width;
     int height;
   public:
     // write prototypes of setters for length, width and height
     // write prototypes of getters for length, width and height

     int calcVolume();
};
```

main.cpp

```
#include <iostream>
using namespace std;
#include "Box.h"

int main() {

  // 1. Create a Box type object called box1
  // ======= DO NOT CHANGE THE INPUT ===========
  int height, length, width;
  cout << "Enter the Height of the Box : ";
  cin >> height;
  cout << "Enter the Length of the Box : ";
  cin >> length;
  cout << "Enter the width of the Box : ";
  cin >> width;
  // ========================================

  // 2. Use setters assign height, length, width throw

  // === DO NOT CHANGE THE OUTPUT =============
  cout << "Box Height " << box1.getHeight() << endl;
  cout << "Box Length " << box1.getLength() << endl;
  cout << "Box Width " << box1.getWidth() << endl;
  cout << "Volume of Box is " << box1.calcVolume() << endl;
  // ========================================
    return 0;
}
```