CT60A2411
Object Oriented Programming: Week 3C

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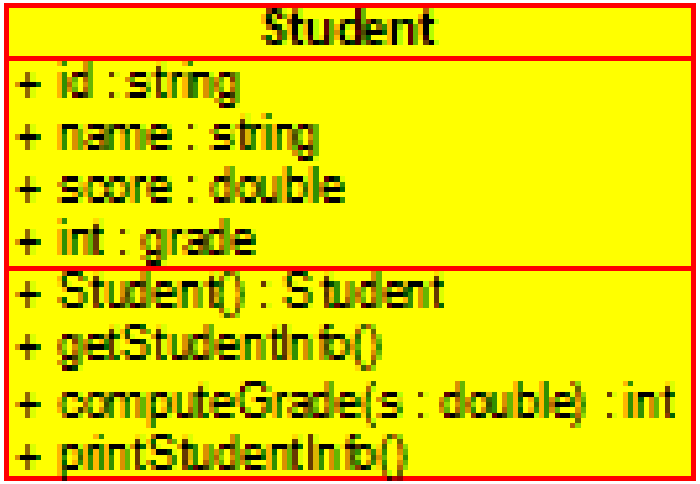
Recap

1. The object is a real-world entity (in generic) that has
    a. state and behaviour
    b. class and object
    c. values and references
    d. all of the above

2. The instance of a class called ----------

3. Define a class diagram for object Circle with its data fields (state) and associated constructors and methods (behaviour).

- **Class diagram to Java program**



1. Create a class name called **Student**
2. **Define data fields** with their data type
3. **Define methods** with their functionalities/actions
4. Create another class called ***mainProgram*** to execute **Student class**
5. As you know already, we need **main method** to run instance of classes/java code

```java
*/
public class Student {
    String id, name;
    double score;
    int grade;
    Student(){ // empty constructor
    }
    public void getStudentInfo(){
     }
    public int computeGrade(double s){
        if (s<50){
            grade = 0;
        }
        else if (s<60){
            grade = 1;
        }
        else if (s<70){
            grade = 2;
        }
        else if (s<80){
            grade = 3;
        }

        else if (s<90){
            grade = 4;
        }
        else{
            grade = 5;
        }
        return grade;

    }
    public void printStudentInfo(){
        System.out.println(id+" "+name+" "+score+" "+grade);
    }
}
```

```java
*/
public class mainProgram {
    public static void main(String[] args) {
        Student s1 = new Student();
        s1.id = "4567";
        s1.name = "HEBUT";
        s1.score = 95;
        s1.computeGrade(s1.score);
        s1.printStudentInfo();

    }
}
```

Here, s1 is an object /instance of a class, which can use and Student's data fields and methods that are public as copy (instance).