

**COURSE: CIS 104** 

## Lab 8 POLYMORPHISM

## Consider the above UML and read the following description.

Student
- name: String
- Id: string
- totalMarks: int
+ Student()
+ Student(string name, String Id, int totalMarks)
+ setName(string name)
+setId(String Id)
+ setTotalMarks(int_totalMarks_)
+ getName(): String
+ getId(): String
+ gettotalMarks(): int
+ display()
+ toString(): String
<del></del>

## undergradStud

- coop:boolean
- + undergradStud()
- + *undergradStud* (String nn, String ii, int tm, boolean co)
- + setCoop(boolean coop)
- + getCoop(): boolean
- + display()
- + toString(): String
- + computeGrade()

## postGradStud

- teaching: boolean
- + postGradStud()
- + postGradStud (String nn, int aa,
- char gg, double ws)
- + setteaching(boolean tt )
- + getTeaching(): boolean
- + display()
- + toString(): String
- + computeGrade()
- 1. Write in Java the classes: *Student*, *undergradStud* and *postGradStud*.
- 2. Write a main method to test your methods.
  - 2.1 Create an array of size 4 of type Student.
  - 2.2 Add to the array 3 objects of type undergradStud and an object of type postGradStud
  - 2.3 Compute grade for all the students and count the number of objects of type *undergradStud* using the operator *instanceof*.

Method ComputeGrade(): for undergradraduate student: if totalMarks >=60 Pass

for postgraduate student: if totalMarks >=70 Pass otherwise fail