SIBA CAMPUS
SRI LANKA INTERNATIONAL BUDDHIST ACADEMY
(Higher Educational Institute of Sri Dalada Maligawa)
Pallekele, Kundasale, Sri Lanka

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY
IT235 –Introduction to Object Oriented Programming

Lab Sheet 01

1. There are students and teachers in a department of a university. The department conducts a course that consists of two subjects: IT and English. The students have to sit for two examinations at the end the course. The students are graded based on their average marks. The salary of a teacher is computed from the number of teaching hours. Suppose we have to develop an information system for this institute.

   i. Create *Student* class in *Student.java* file including the following attributes with their corresponding data types.

Attribute	**Data Type**
name	String
age	int
marksIT	double
marksEnglish	double
average	double

   ii. Create *Teacher* class in *Teacher.java* file including following attributes with their corresponding data types.

Attribute	**Data Type**
name	String
age	int
rate	double
salary	double

   iii. Create a class called *Test* that contains the main method in *Test.java file*. Create an object of *Student* class inside the main method of *Test* class. Print the values of the attributes of previously created *Student* object.

   iv. Assign following values to the above *Student* object and print the values of the attributes.

name	:	“Ana”
age	:	23
marksIT	:	67
marksEnglish	:	84

   v. Declare a static double type variable *avg* in *Student* class.

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vi. Include the following lines inside the main method of *Test* class and see the output.

```
Student s1=new Student();
Student s2=new Student();
s1.avg=10;
System.out.println(s2.avg);
```

vii. Print the values of *s1.avg*, *s2.avg* and *Student.avg* and see the output.

viii. Create a method inside the Student class to set the value to average attribute, in which the average of marksIT and marksEnglish is calculated.

ix. Create a static method called *calAvg* that takes an array of *Student* objects as input array parameter, calculate the average of the *average* attributes of the objects in input *Student* array and set it to the static variable *avg*.

x. Implement a method to return the grade of a student according to the criteria given in the following table. Test it in the main method.

Average marks range	**Grade**
average ≥ 70	A
40≤ average <70	B
30≤ average <40	C
average<30	F

xi. In the *Student* class, implement a parameterized constructor that assigns values to the attributes of the object. Use this constructor to create Student objects whose attributes are assigned at the object creation.