



Gyalpozhing College of Information Technology
BSc in Computer Science, Year II, Semester I
Autumn 2020

PLT202: Object Oriented Programming Using Java
Lab Exercise 4

Release Date: 20-October-2020



1. Write a menu driven program to perform arithmetic operations. Your menu should display the following options:

*** Simple Calculator***

1. Enter two numbers
2. Addition
3. Subtraction
4. Division
5. Multiplication
6. Modulus
7. Exit

You should enter the choice and based on the choice, perform the operations.

[4]

2. Create a class named *Bicycle* with two instance variables: gear and speed of type int. The Bicycle class contains the following methods:

- a. applyBrake(int decrement) : Reduce the speed by one
- b. speedUp(int increment) : Increase the speed by one
- c. toString(): Method to print the information of the Bicycle

Create a derived class named *MountainBike* with one instance variable seatHeight of type int. The class contains setHeight() method which sets the height of the seat. Override toString() method to print the information of Bike and mountain bike. Create a **BicycleDemo** class to demonstrate the capabilities of the classes. You need to ask the user to enter all the necessary information and passed it through the constructor while instantiating the class.

[3]

3. Define an **Animal** abstract class with four abstract methods: *eat()*, *sleep()*, *makeNoise()* and *roam()* of type void. Create **Cat** and **Dog** subclasses which inherit the properties of base class. Test your application from AnimalDemo class.

[3]

*****END*****