University of Dhaka
Dept. of Computer Science and Engineering

CSE-2112: Object Oriented Programming Lab (Spring, 2023)
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Lab 2: Classes and methods
Date : February 7, 2023

Topics

- Class
- Constructors
- Static block and methods
- Passing objects to and returning objects from methods
- Built-in methods of Object and String class

a. Create a class called *myclass* that has a private integer called *a* and two public methods called *set_a()* and *get_a()* where the former method sets the value of *a* and the latter returns its value. Demonstrate the usage of these functions with the help of two objects in the main function.

b. Create a class that holds the name and address information of a person. Store all the information in strings that are private members of the class. Include a constructor function that sets up the name and address. Also include a public method that displays the name and address. Finally, in the main function demonstrate all the methods of the class using two objects.

c. Create a class called *card* that maintains a library card catalog entry. Have the class store a book's title, author, and the number of copies available. Store the title and author as strings and the number as an integer - all should be private members. Include a constructor function that sets the data using parameters. Write a public method called *set()* to store a book's information and another public method called *show()* to display the information. Include a main() method to demonstrate all the methods of the class.

   i. Now, test what happens when you assign one object to another. That is, using two objects and assignments between them, demonstrate that Java uses object variables as reference variables so that changes in one variable reflect on the other.

d. Create a class called *two_d_point* that contains two integers *x* and *y* - these two integers are set using a constructor. Write a method called *add* that takes three objects of class *two_d_point* as parameters, adds the two point's x and y coordinates, stores them to the third object's coordinates, and prints the resultant coordinates. Call this method from the main method with appropriate parameters. Print the resultant coordinates from both main and *add* functions. Examine the output carefully. Which scheme (call-by-value or call-by-reference) is being used here and how do you prove this from the output? Write your brief answer as comments in the main method.