Assignment for Lecture 8

1. Programming Challenges

7.1, 7.2, 7.3 Tony Gaddis Java. You should study yourself the chapter 7: Array programming in Java

2. Write a Circle class that has: its radius as a real number, its color as a string such as “red” “blue”.

The accessors and mutators for these attributes and one new member function getArea to calculate the circle’s area.

Write a program demonstrating the Circle class by asking the user for the circle’s radius, color and creating a Circle object, and then reporting the circle’s area and color.

3. Create a class called Employee that includes three pieces of information as data members—a first name(type string), a last name (type string)and a monthly salary (type int).

Provide a set and a get function for each data member. If the monthly salary is not positive, set it to 0.Write a test program that demonstrates class Employee’s capabilities.

Create two Employee objects and display each object’s yearly salary. Then give each Employee a 10 percent raise and display each Employee’s yearly salary again.

4. Create an Account class that a bank might use to represent customers’ bank accounts. Include a data member of type double to represent the account balance and an account number of type string. Provide 4 member functions. Member function credit should add an amount to the current balance. Member function debit should withdraw money from the Account and ensure that the debit amount does not exceed the Account’s balance. If it does the balance should be left unchanged and the function should print a message indicating "Debit amount exceeded account balance." Member function getBalance should return the current balance.

- A pair of get/setAccountNumber should be implemented.
- Write a program that creates two Account objects and tests the member functions of class Account as follows:
  - Account number 122100008121 – credit balance 1.000.050 – then debit 2000.000
  - Account number 122100008121 – credit balance 2.000.050 – then debit 2000.000
- Display information about each account after each transaction.