Lab 1 Objectives

**[ UML of classes ]**

|  |  |  |
| --- | --- | --- |
| **AccountHolder** |  | **AccountHolderTest** |
| -balance : double  -annualInterestRate : static double |  |  |
| +AccountHolder (balance : double)  +deposit(balance : double)  +withdrawal(balance : double)  +monthlyInterest()  +modifyMonthlyInterest() : static double |  | +main() |

**[ Accessing data ]**

-2 ways to access data

1. For static members (fields)

*ClassName.staticmember*

Ex.

AccountHolder.annualInterestRate = .05;

1. For instance members (fields)

*objectName.method()*

**[ The Constructor ]**

When object is created the *Constructor* is called automatically.

Ex.

AccountHolder accObj1 = new **AccountHolder**( balance);

**[ Error trappings! ]**

if (balance < 0.0)

throw new IllegalArgumentException("balance must be non-negative");

**[ Avoiding Self-Referential assigning! ]**

\*use this (which refers to a current object’s instance) keyword in a method to avoid self referential integrity!

 this.balance = balance;

ex.

// constructor, creates a new account with the specified balance

public AccountHolder(double balance) {

 this.balance = balance; //assign local variable to class member

}

**[ Print formatting ]**

Use various print formatting with the format specifier % symbol followed by a converter.

Popular converters to use include:

|  |
| --- |
| %f -> float  %d -> int  %s -> string  %n -> newline |

Ex.

System.out.printf(“**$%.2f**”, balance);

System.out.format (“**%-10s%n**”, “Total balance”);