Exercise 1 (10 points)

1. Suppose we have the following code:

```java
class Test{
    private int m;
    public static void func(){
        // some code...
    }
}
```

• What is the correct way to replace line 2 so that variable m can be referenced within method func?
  A. protected int m;
  B. public int m;
  C. static int m;
  D. int m;

2. Define the following two classes:

• BankAccount: Has a balance and supports the following operations:
  - BankAccount(): Creates an account setting the balance to 0
  - BankAccount(double initialBalance)
  - deposit(double amount)
  - withdraw(double amount): Should print an error message if the balance is insufficient. This operation does not return any value.
  - getBalance()
  - transfer(double amount, BankAccount destination). Should print an error message if there are insufficient funds in the origin account.

• SavingsAccount: A bank account that also has an interest rate and supports the following operations:
  - SavingsAccount(double rate): Creates a savings account with the given interest rate and 0 as balance. Eg. For a 1% interest rate the argument for this constructor would be 0.01.
  - addInterest(): Deposits the interest w.r.t. the current balance.