Question 1 [16 marks]
We begin with some basics regarding software testing:
a) What is a test case? What are its main components? **[4]**
A test case is a test-related item which contains the following information: a set of test inputs, execution conditions, and expected outputs.

b) Define the terms test suite, and test oracle. **[4]**

Test suite: A test suite is a group of related test cases.

Test oracle: A test oracle is some means that allows testers to determine whether a test has passed or failed, by checking whether the observed and expected behaviours match or not.

c) During the lectures, we talked about a set of testing principles. Consider the following scenario, and explain what testing principles has been followed, and what testing principles have been violated. For each case, you need to **mention the testing principle,** and **explain how it has been followed/violated. [8]**

David works as a software developer in some software company. He has just finished developing code to automate the process of withdrawing money from an Automated Teller Machine (ATM). Such code needs to be tested. Hence, David created JUnit tests that covered two scenarios:

(i)   Allowing a customer to withdraw 40 dollars from his account that has a 100 dollars balance.

```
public void testWithdraw_scenario1()
{
    Customer John = new Customer(100);
    //where 100 is the initial balance

    int newBalance = John.withdraw(40);
    assertEquals(newBalance, 60);
}
```

(ii)   Allowing a customer to withdraw 100 dollars from his account that has a 100 dollars balance.

```
public void testWithdraw_scenario2()
{
    Customer John = new Customer(100);
    //where 100 is the initial balance
```