**Name**: Jenna Laaksovirta

**Pair:**

**Amount of completed tasks: 10**

**Which tasks were left undone or incomplete:**

Self-assessment:

This exercise was almost ok, but exercise 7 and 8 is so difficult for me.

# **Task 1**

Explain the following terms:

a. Abstraction (in programming)

Abstraction is used to hide background details or any unnecessary implementation about the data so that users only see the required information. It is one of the most important and essential features of object-oriented programming. Pre-defined functions are similar to data abstraction.

b. Accessor and mutator methods

Accessor Method: This method is used to access the state of the object i.e, the data hidden in the object can be accessed from this method. Mutator Method: This method is used to mutate/modify the state of an object i.e, it alters the hidden value of the data variable.

c. Public and private methods

Private methods are those methods that should neither be accessed outside the class nor by any base class. In Python, there is no existence of Private methods that cannot be accessed except inside a class. However, to define a private method prefix the member name with double underscore “\_\_”

Public members (generally methods declared in a class) are accessible from outside the class. The object of the same class is required to invoke a public method. All members in a Python class are public by default. Any member can be accessed from outside the class environment.

d. \_\_str\_\_ method (in Python)

The \_\_str\_\_ method in Python represents the class objects as a string – it can be used for classes. The \_\_str\_\_ method should be defined in a way that is easy to read and outputs all the members of the class. This method is also used as a debugging tool when the members of a class need to be checked.

## Test report

|  |  |  |  |
| --- | --- | --- | --- |
| **Task** | **Input / action** | **Desired output** | **Actual output (use red color if desired output != actual output)** |
| **2** | User runs the program  <Run the program a couple of times so that you get **each side up** at least once> | This side is up: Heads  Tossing the coin…  Now this side is up: <Tails>  <Heads, Tails, Rabbit whole, Upright, wormhole> | This side up Heads  This side up Heads  Currency is Yen |
| **2** | User runs the program  <Run the program a couple of times so that you get **each currency** at least once.> | Currency is: Euro  <Euro, Pound, Dollar, Ruble, Yen> | This side up Heads  This side up Tails  Currency is Euro |
|  | | | |
| **3** | User runs the program  <Run the program a couple of times so that you get **each currency** at least once.> | Currency (original): Euro  Currency (new): <Dollar>  <Euro, Pound, Dollar, Ruble, Yen> | This side up Heads  This side up Tails  Currency (original): Euro  Currency (new): Euro |
|  | | | |
| **5** | User runs the program  <Run the program a couple of times so that you get **each number, color and that extra feature** at least once> | Rolling the dice …  number: 4  color: red  extra feature: xx  <1..6, all the colors, all the feature values> | Rolling the dice...  The dice number: 1  The dice coloris: Brown  The Dice feature is: Fluffy |
|  | | | |
| **6** | User runs the program  <Run the program a couple of times so that you get **each possible sum** at least once> | Rolling the dice1 …  number: 4  Rolling the dice2 …  number: 2  The sum is: 6  The sum is <2..12> |  |
|  | | | |
| **7** | User runs the program  <Run the program a couple of times so that you get **every player to win** at least once.> | Dice rolling game  First round …  Player1: 6  Player2: 4  Player3: 5  Second round …  Player1: 3  Player3: 5  The winner is: Player3  <Player1, Player2, Player3> |  |
|  | | | |
| **8** | User runs the program  <Run the program a couple of times so that you get **every player to win** at least once.> | Dice rolling game  First round …  Player1: 6  Player2: 6  Player3: 5  Player 2 is out because of red dice.  Second round …  Player1: 3  Player3: 6  The winner is: Player3  <Player1, Player2, Player3> | Karolina dice number is 6  Jorma dice number is 5  Tero dice number is 4  Tero has a small number of dice.  Karolina dice number is 5  Jorma dice number is 4  Jorma has a small number of dice.  Winner is Karolina! |
|  | | | |
| **9** | User runs the program  <Write test case depending on your implementation.> | Here is the data that you provided :  Manufacturer: <Apple>  Model number: <iPhone 7>  Retail price: <500.0> | Enter the cellpone manufact: Apple  Enter the cellpone model: iPhone 7  Enter the cellpone retail price: 850  Here is the data that you provided:  Manufacturer: Apple  Model number: iPhone 7  Retail price: 850 |
|  | | | |

# **Task 10**

* 1. a. Object?
  2. Kuva, joka sisältää kohteen teksti

     Kuvaus luotu automaattisesti
  3. b. Encapsulation?
  4. Objects are private and are used with get and set methods.
  5. Kuva, joka sisältää kohteen teksti

     Kuvaus luotu automaattisesti
  6. c. Data attributes?
  7. Kuva, joka sisältää kohteen teksti, oranssi, laite, näyttökuva

     Kuvaus luotu automaattisesti
  8. d. Hidden attributes?
  9. Kuva, joka sisältää kohteen teksti, oranssi, laite, näyttökuva

     Kuvaus luotu automaattisesti
  10. e. Public methods?

1. Kuva, joka sisältää kohteen teksti

   Kuvaus luotu automaattisesti
   1. f. Private methods?
   2. Kuva, joka sisältää kohteen teksti

      Kuvaus luotu automaattisesti
   3. g. Init-method?
   4. 