Gebze Technical University
Computer Engineering

CSE 443 - 2018 Fall

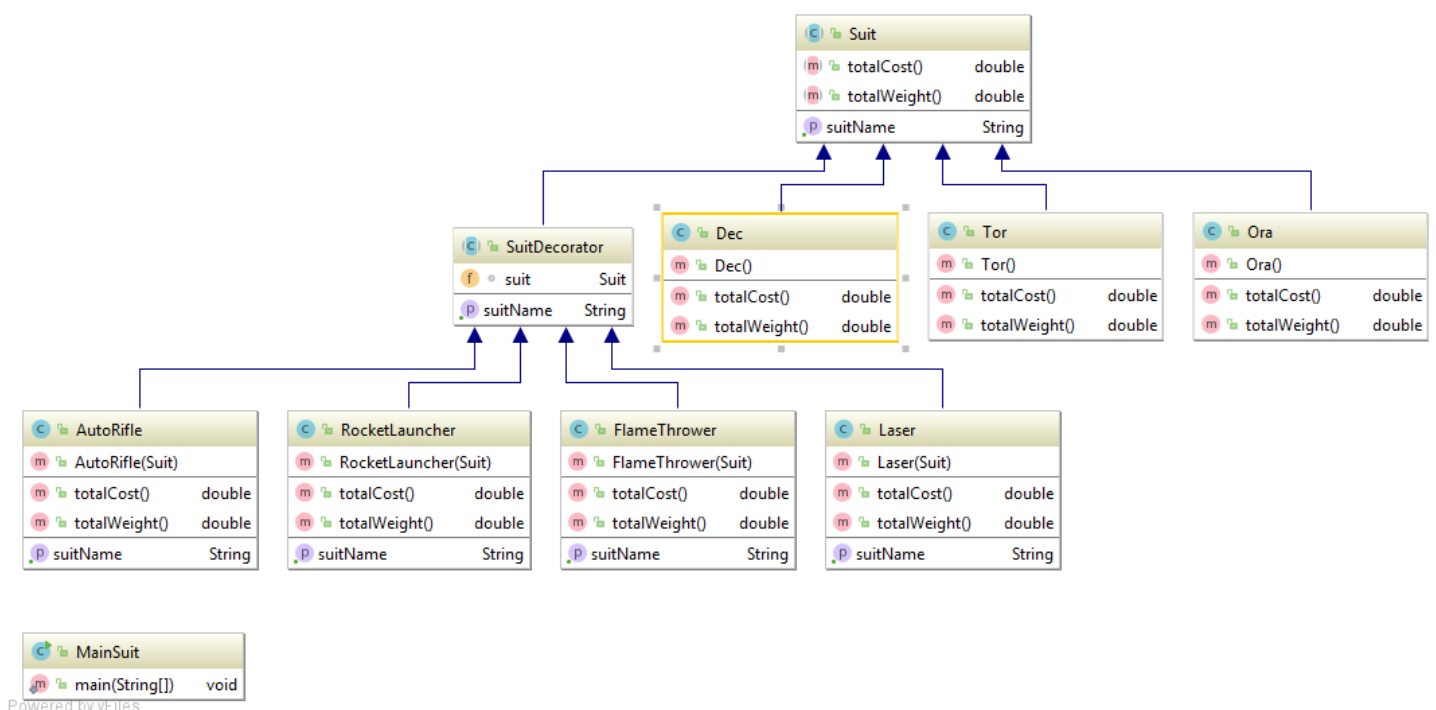**HOMEWORK II REPORT**

OSMAN AKKUS
151044055

Course Assistant: Muhammed Ali Dede

Q1 is below.

Q2) Problem Solution Approach

- In this question we are building three types armored suits. But there is problem about adding new features to this suits. When we wanted to add new accessories to them. It became very hard to combine with existed suit.
- Then we can apply here the Decorator Pattern and this way, we add new features easily to the suits. Every new accessories become a new suit which takes the old suit and combine its own features with them.

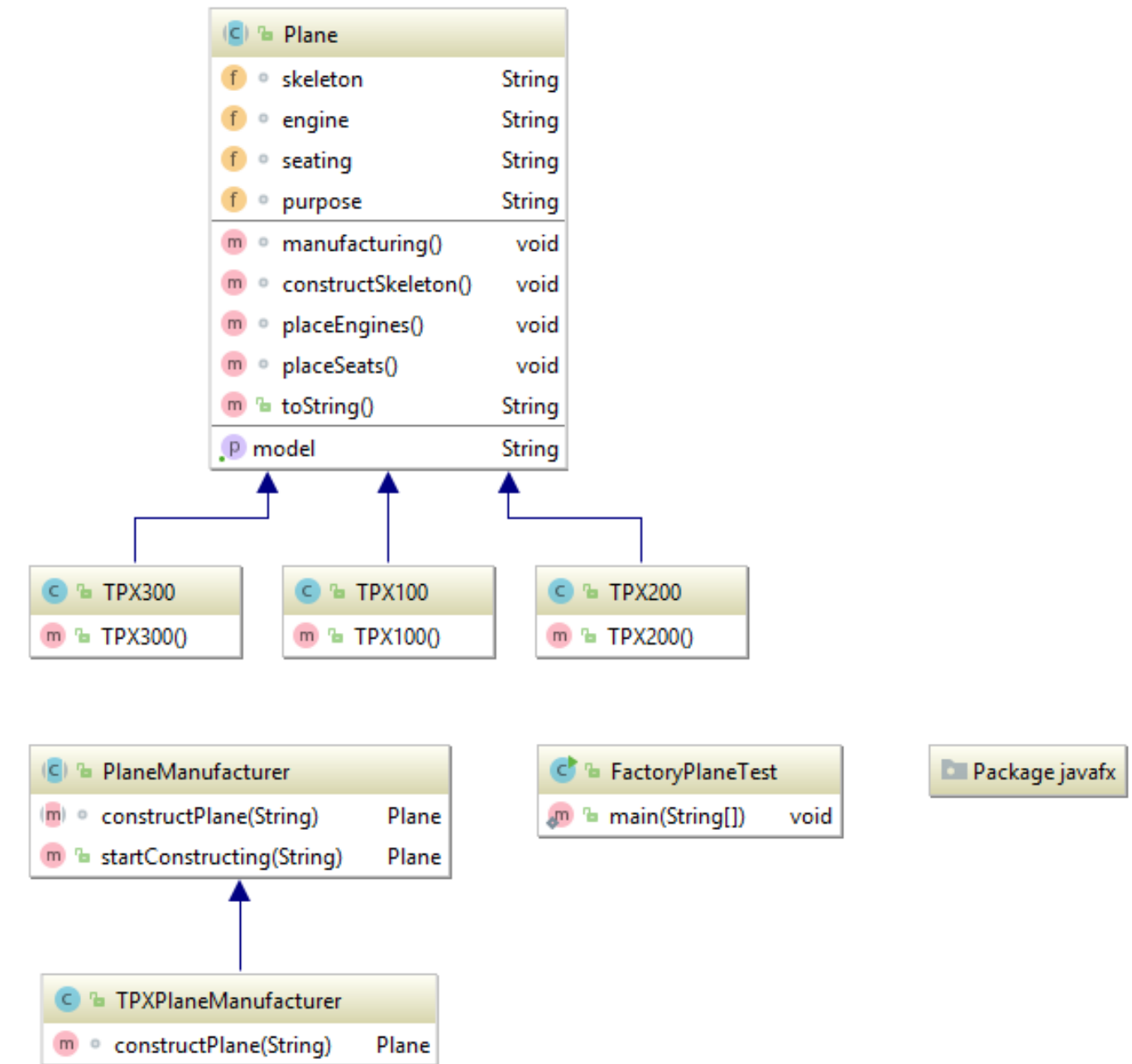## Q2) Class Diagrams

Q2) Running Results

```
"C:\Program Files (x86)\Java\jdk1.8.0_172\bin\java.exe" ...
Dec   500.0TL, 25.0kg.
Ora with AutoRifle with FlameThrower with FlameThrower  1630.0TL, 35.5kg.
Tor with Laser with RocketLauncher with FlameThrower with AutoRifle  5430.0TL, 66.5kg.

Process finished with exit code 0
```

Q3_1) Problem Solution Approach

- In this question we are wanted to manufacture planes but different planes with some different features.
- We use Factory Method Pattern here.

Q3 _2) Class Diagrams

Q3 _1) Running Results

```
"C:\Program Files (x86)\Java\jdk1.8.0_172\bin\java.exe"
--- Making a TPX 100 ---
Manufacturing TPX 100
Constructing skeleton...
Placing engines...
Placing seats...
Skeleton is constructing
Placing the engines of the plane
Placing the seats of the plane
TPX 100 model plane constructed
--- Making a TPX 200 ---
Manufacturing TPX 200
Constructing skeleton...
Placing engines...
Placing seats...
Skeleton is constructing
Placing the engines of the plane
Placing the seats of the plane
TPX 200 model plane constructed
--- Making a TPX 300 ---
Manufacturing TPX 300
Constructing skeleton...
Placing engines...
Placing seats...
Skeleton is constructing
Placing the engines of the plane
Placing the seats of the plane
TPX 300 model plane constructed

Process finished with exit code 0
```

Q1) Solutions

1) The answer is No. Because when you try to call the clone() function of the Object you will get the Compile Time Exception because it is a protected method.

2) We can prevent it by overriding it. We can override it then throw an exception.

3) For the 1. Question : If we make this then we will be able to create a new distinct object but aim of the Singleton Pattern will be meaningless.

   For the 2. Question : We can override it then throw an exception as same as second question answer.