REQ6: Monologue

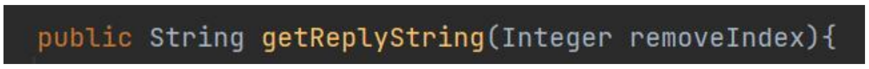
Overview:
To achieve this feature, there will be two new classes (i.e., SpeakAction and Toad) created in the extended system, and two existing classes (i.e., Application and Status) will be modified. The design rationale for each new or modified class is shown on the following pages.

1) SpeakAction

What changed in the design rationale between Assignment 1 and Assignment 2 and Why:
There is no changes in this class of REQ6 between Assignment 1 and Assignment 2.

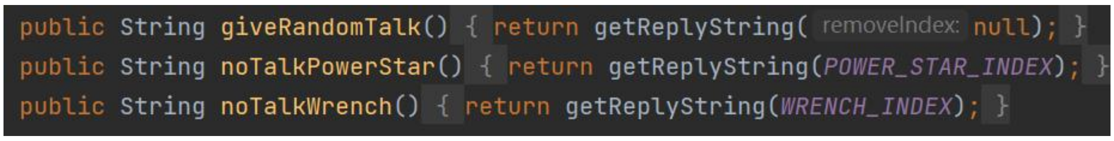
2) Toad

What changed in the design rationale between Assignment 1 and Assignment 2 and Why:
In Assignment 2, I add one method getReplyString() to modify which sentence to be talk depends on different capabilities the player had. In Assignment one, there are three methods which have the similar code structure, which are: giveRandomTalk(), noTalkPowerStar() and noTalkWrench(). The only difference between them is the index of the sentence to be remove. It does not obey the design principle DRY, so I add one getReplyString() method for this class, to make it more logical and readable.



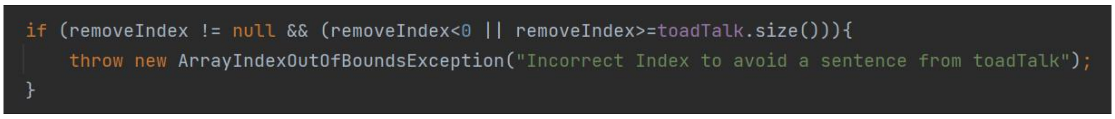
```
public String getReplyString(Integer removeIndex){
```

Why I choose to do it that way:
To reduce the repetitive code in those method, I add this method which has an index called removeIndex (represent the index will be remove) as its input parameter and return an currentIndex(after fulfil some conditions). In this method, if the removeIndex equals to null, then the currentIndex will be any random number within the size of the toadTalk Array.
Else we put the currentIndex as any random number within the size of the toadTalk Array. If the currentIndex equals to the removeIndex, the currentIndex will jump over that removeIndex, so the corresponding sentence will not be print.
This method helps to get the correct sentences, so when I want to print the corresponding sentences, I just call this method and input the index of the sentence which I want to remove from the arraylist. It obeys the design principle and make the code logical.



```
public String giveRandomTalk() { return getReplyString( removeIndex: null); }
public String noTalkPowerStar() { return getReplyString(POWER_STAR_INDEX); }
public String noTalkWrench() { return getReplyString(WRENCH_INDEX); }
```

In addition, I added exceptions for this method to make sure that the removeIndex is valid. If an index which is out of the range, an ArrayIndexOutOfBoundsException will raise to notify the user the index is wrong. By doing this, I follow the Fail Fast principle that make our code more elaborate.



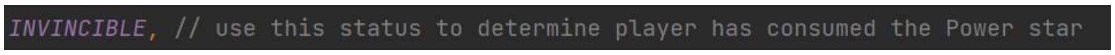
```java
if (removeIndex != null && (removeIndex<0 || removeIndex>=toadTalk.size())){
    throw new ArrayIndexOutOfBoundsException("Incorrect Index to avoid a sentence from toadTalk");
}
```

3) Application

What changed in the design rationale between Assignment 1 and Assignment 2 and Why:
There is no changes in this class of REQ6 between Assignment 1 and Assignment 2.

4) Status Enum

What changed in the design rationale between Assignment 1 and Assignment 2 and Why:
In Assignment 2, I change the capability name after player consume the power star, instead of using POWER_STAR_BUFF, I will use INVINCIBLE. POWER_STAR_ BUFF is not so readable as INVINSIBLE.



```java
INVINCIBLE, // use this status to determine player has consumed the Power star
```

Why I choose to do it that way:
In the assignment specification, it mentions that after player consume the power star, he will become invincible, so I think INVINCIBLE will be more suitable for this capability. It helps me to give capability to player after player consume a power star. By using this enum class, it provides us more flexibility for future development as we can simply add additional capability when needed.