**Task 1**

In this project, we were supposed to check the code coverage for the unit test that we had written in previous VendingMachine project. To check the code coverage we used EclEmma plugin. EclEmma is free java code coverage tool for Eclipse IDE. When we installed EclEmma in Eclipse IDE, a coverage mode is added in Eclipse workbench, which is available in Run menu and the toolbar.

The Coverage view shows what coverage ratio, which items are covered is or not covered and total items. Coverage view indicated statistics for entire projects as well as for individual classes. It has different color code:

1. Green: fully covered lines and branches.
2. Yellow: partly covered lines and branches.
3. Red: Lines and branches that have not been executed at all.

Initially coverage ratio VendingMachine.java was around 70% and because of the coverage color code, I was able to understand which part of code is not covered by unit tests. I added unit test cases and updated some test cases to get coverage ratio of 100%. For example, in makePurchase() method in VendingMachine.java class:

if(( item != null ) && ( this.balance >= item.getPrice() )) {

This branch was partly covered. So I added another test case to purchase item with insufficient balance.

Every time after adding or updating test cases and rerunning EclEmma, I analyzed the coverage ratio. This helped me to check whether I am moving in right track or not.

**Task 2**

For this task we had to generate unit test cases for VendingMachine Project using Google CodePro tool. It saves time and saves developer from tedious job of writing unit test cases. The test cases generated by Google CodePro covered all the scenarios. For example, to add items in vending machine there are two conditions: slot should be empty and slot code should be valid.

So CodePro generated three test cases one test case with good input, second to test to add item in non empty slot and third to add item in invalid slot. Thus we can see that Google CodePro generates extensive unit test cases covering all the situations.

The code coverage was not 100% so there was need to update some test case.