1. There is a magical world of Narnia, where time is different from the time in this world and where animals can speak. The path to Narnia is through a cupboard. A very special cupboard.
In the magical world of Harry Potter, there is a room called Room of Requirement. This is like a cupboard too- it has a lot of items stored in it. But the door to the Room of Requirement is hidden. To open the door, a special password should be uttered.
Make a class called **Cupboard**. It has a variable called ***items*** that tell you the number of items stored in the cupboard. Write down the constructors. There are two types of constructors. If no parameter is passed to the constructor, it sets the value of items to 0. If a value is passed as parameter, that value is set as the value of items. Write another method called **addItems**. This method will also have two versions. If no parameter is passed to it, it increases the value of ***items*** by 1. If a value x is passed as parameter, it increases the value of ***items*** by x. There is another method called void **open()**. This method simply prints a line "Cupboard open".
Another class **CupboardNarnia** inherits the Cupboard class. It has no additional variables. Write down the necessary constructors for CupboardNarnia. Override the open method here. This time, it will print "Open Narnia".
The class **RoomOfRequirement** inherits the Cupboard class. It has a new private variable called ***password***. Write down the necessary constructors. Override the open method here. This time, the method will ask for a password input from the user. If the password matches the password in the class, then it will print "Open room of requirement". If the password is wrong, it will print "There is no room of requirement".
Write a class **Runner** with a main method. In the main method, write the following lines to check your methods:

```
Cupboard c = new Cupboard(5);
c.open();              //Cupboard open
c.additems();          //6
CupboardNarnia n = new CupboardNarnia();


RoomOfRequirement r = new RoomOfRequirement();
n.additems(3);         //9
r.additems(100);       //109
Cupboard ref=n;
ref.open();            //Cupboard Narnia
ref=r;
ref.open();            //Enter password:
```

2. Write a Java class **Employee**. It has two attributes **name** and **Payment** with types respectively String and floating point number. The **constructor** of Employee class initializes **name** and **Payment** with **this** reference keyword. There is one method named void **printBill**() which prints the name and Payment of the employee with appropriate texts. The classes that extend Employee are **GoldenStarEmployee** and **StarEmployee**. GoldenStarEmployee class overrides **printBill**() method by invoking parent

method and also prints the bonus amount which is 50% of the total payments and finally prints the amount payable after adding the bonus amount. StarEmployee class also overrides printBill() in similar way except that the bonus is 25% in this case. Write the code of these two classes also.