
ITVM5013 SOFTWARE DESIGN AND DEVELOPMENT

# CODE DOCUMENTATION FOR GROUP ASSIGNMENT 2

GROUP 3:

1. CHAN YEE HONG
2. KEVIN ZACHARY AL ANBIAH PAUL
3. ABDUL HAKIM BIN ABDUL RASHID

**employee.java**

```
//Subject: ITVM5013 SOFTWARE DESIGN AND DEVELOPMENT
//Group 3 Member:
//1.CHAN YEE HONG
//2.KEVIN ZACHARY AL ANBIAH PAUL
//3.ABDUL HAKIM BIN ABDUL RASHID
//Course: MASTER OF INFORMATION TECHNOLOGY
//Group Assignment 2: Company Structure

public abstract class employee {
   private static int countID;

   public String name;
   public int employeeID;
   public double baseSalary;
   public double bonus;

   public employee manager;
   public accountant accountantSupport;
   public int headcount=0;

   public double bonusBudget;


   public employee(String name, double baseSalary){
      this.name=name;
      this.baseSalary=baseSalary;
      countID++;
      this.employeeID=countID;
   }

   public double getBaseSalary(){
      return this.baseSalary;
   }

   public String getName(){
      return this.name;
   }

   public int getEmployeeID(){
      return this.employeeID;
```

```
    }

    public employee getManager(){
        return manager;
    }

    public accountant getAccountantSupport() {
        return accountantSupport;
    }

    public void setManager(employee manager){
        this.manager=manager;
    }

    public boolean equals(employee other){
        return this.getEmployeeID()==other.getEmployeeID();
    }

    public String toString(){
        return getEmployeeID()+" "+getName();
    }

    public abstract String employeeStatus();

    public void getBonus(){

    }

}
```

**technicalEmployee.java**

```
//Subject: ITVM5013 SOFTWARE DESIGN AND DEVELOPMENT
//Group 3 Member:
//1.CHAN YEE HONG
//2.KEVIN ZACHARY AL ANBIAH PAUL
//3.ABDUL HAKIM BIN ABDUL RASHID
//Course: MASTER OF INFORMATION TECHNOLOGY
//Group Assignment 2: Company Structure

public class technicalEmployee extends employee {
   public int checkins;


   public technicalEmployee(String name){

      super(name,75000.00);
      checkins=0;
   }

   public String employeeStatus(){

      return super.toString()+" has "+checkins+" successful check ins";
   }

   public void setCheckin(){
      checkins++;
   }


}
```

**businessEmployee.java**

```
//Subject: ITVM5013 SOFTWARE DESIGN AND DEVELOPMENT
//Group 3 Member:
//1.CHAN YEE HONG
//2.KEVIN ZACHARY AL ANBIAH PAUL
//3.ABDUL HAKIM BIN ABDUL RASHID
//Course: MASTER OF INFORMATION TECHNOLOGY
//Group Assignment 2: Company Structure

public class businessEmployee extends employee {


   public businessEmployee(String name){
      super(name,50000.00);
   }

   public double getBonusBudget(){
      return bonusBudget;
   }

   public void setBonusBudget(double bonusBudget) {
      this.bonusBudget = bonusBudget;
   }

   public String employeeStatus(){
      String s= String.format("%.2f",bonusBudget);
      return this.toString()+" with a budget of "+ s;
   }
}
```

**softwareEngineer.java**

```
//Subject: ITVM5013 SOFTWARE DESIGN AND DEVELOPMENT
//Group 3 Member:
//1.CHAN YEE HONG
//2.KEVIN ZACHARY AL ANBIAH PAUL
//3.ABDUL HAKIM BIN ABDUL RASHID
//Course: MASTER OF INFORMATION TECHNOLOGY
//Group Assignment 2: Company Structure

public class softwareEngineer extends technicalEmployee{
   public boolean CodeAccess;

   public softwareEngineer(String name){
      super(name);
      setCodeAccess(true);
   }

   public boolean getCodeAccess(){
      return CodeAccess;
   }

   public void setCodeAccess(boolean access){
      this.CodeAccess=access;
   }
   public int getSuccessfulCheckIns(){
      return checkins;
   }
   public boolean checkInCode(){
      technicalLead manager=(technicalLead) this.getManager();
      if (manager.approveCheckIn(this)){
         this.checkins++;
         return true;
      } else {
         CodeAccess=false;
         return false;
      }
   }
   public void setManger(technicalEmployee manager){

      super.manager=manager;
   }
}
```

**accountant.java**

```
//Subject: ITVM5013 SOFTWARE DESIGN AND DEVELOPMENT
//Group 3 Member:
//1.CHAN YEE HONG
//2.KEVIN ZACHARY AL ANBIAH PAUL
//3.ABDUL HAKIM BIN ABDUL RASHID
//Course: MASTER OF INFORMATION TECHNOLOGY
//Group Assignment 2: Company Structure

public class accountant extends businessEmployee {
   public technicalLead teamSupported;
   public accountant(String name){
      super(name);
      bonusBudget=0;
   }

   public technicalLead getTeamSupported(){
      return teamSupported;
   }

   public void supportTeam(technicalLead lead){
      this.teamSupported=lead;
      for (int i=0; i<lead.team.size(); i++){
         this.bonusBudget+=lead.team.get(i).getBaseSalary()*1.1;
      }
   }

   public boolean canApproveBonus(double bonus){
      double requestedBonus=bonus;
      if (requestedBonus<=getBonusBudget()){
         return true;
      } else {
         System.out.print(" Rejected because Budget not sufficient. ");
         return false;
      }

   }
   public String employeeStatus(){
      return this.toString()+" with a budget of "+ getBonusBudget()+" is supporting "+
this.getTeamSupported();
   }
}
```

**technicalLead.java**

```
//Subject: ITVM5013 SOFTWARE DESIGN AND DEVELOPMENT
//Group 3 Member:
//1.CHAN YEE HONG
//2.KEVIN ZACHARY AL ANBIAH PAUL
//3.ABDUL HAKIM BIN ABDUL RASHID
//Course: MASTER OF INFORMATION TECHNOLOGY
//Group Assignment 2: Company Structure

import java.util.ArrayList;

public class technicalLead extends technicalEmployee {
   public ArrayList<softwareEngineer> team;


   public technicalLead(String name){

      super(name);
      this.baseSalary*=1.3;
      headcount=4;
      this.team=new ArrayList<softwareEngineer>();
   }

   public boolean hasHeadCount(){

      if(team.size()<headcount){
         return true;
      } else {
         return false;
      }
   }

   public boolean addReport(softwareEngineer e){

      if(hasHeadCount()){
         team.add(e);
         e.setManager(this);
         return true;
      } else {
         return false;
      }
```

```
    }

    public boolean approveCheckIn(softwareEngineer e){

        if(e.getManager().equals(this) && e.getCodeAccess()){
            return true;
        } else {
            return false;
        }
    }


    public boolean requestBonus(employee e, double bonus){

        businessLead businessLead= (businessLead)getAccountantSupport().getManager();
        if (businessLead.approveBonus(e, bonus)){
            return true;
        } else {
            return false;
        }
    }


    public String getTeamStatus(){

        if (team.size()==0){
            return this.employeeStatus()+ " and no direct reports yet";
        } else {
            String teamStatus="";
            for (int i=0;i<team.size();i++){
                teamStatus+=("    "+team.get(i).employeeStatus()+"\n");
            }
            return this.employeeStatus()+" and is managing: \n"+teamStatus;
        }

    }


}
```

**businessLead.java**

```
//Subject: ITVM5013 SOFTWARE DESIGN AND DEVELOPMENT
//Group 3 Member:
//1.CHAN YEE HONG
//2.KEVIN ZACHARY AL ANBIAH PAUL
//3.ABDUL HAKIM BIN ABDUL RASHID
//Course: MASTER OF INFORMATION TECHNOLOGY
//Group Assignment 2: Company Structure

import java.util.ArrayList;

public class businessLead  extends businessEmployee{
   public ArrayList<accountant> team;

   public businessLead(String name){
      super(name);
      this.baseSalary=getBaseSalary()*2;
      this.headcount=10;
      this.team=new ArrayList<accountant>();
   }

   public boolean hasHeadCount(){
      if(this.team.size()<this.headcount){
         return true;
      } else {
         return false;
      }
   }

   public boolean addReport(accountant e, technicalLead supportTeam){
        if (hasHeadCount()){

         team.add(e);
         e.setManager(this);
         this.bonusBudget+=e.baseSalary*1.1;
         e.supportTeam(supportTeam);
         supportTeam.accountantSupport=e;
         return true;
      } else {
         return false;
      }
```

```
}

public boolean requestBonus(employee e, double bonus){
   if (bonus<=getBonusBudget()){
      this.bonusBudget-=bonus;
      e.bonusBudget+=bonus;
      return true;
   } else {
      return false;
   }
```

**companyStructure.java**

```
//Subject: ITVM5013 SOFTWARE DESIGN AND DEVELOPMENT
//Group 3 Member:
//1.CHAN YEE HONG
//2.KEVIN ZACHARY AL ANBIAH PAUL
//3.ABDUL HAKIM BIN ABDUL RASHID
//Course: MASTER OF INFORMATION TECHNOLOGY
//Group Assignment 2: Company Structure

//Here is my testing code that you can use to see if things are set up properly
public class companyStructure {
   public static void main (String[] args){
      technicalLead CTO = new technicalLead("Satya Nadella");
      softwareEngineer seA = new softwareEngineer("Kasey");
      softwareEngineer seB = new softwareEngineer("Breana");
      softwareEngineer seC = new softwareEngineer("Eric");

      CTO.addReport(seA);
      CTO.addReport(seB);
      CTO.addReport(seC);

      System.out.println(CTO.getTeamStatus());

      technicalLead VPofENG = new technicalLead("Bill Gates");
      softwareEngineer seD = new softwareEngineer("Winter");
      softwareEngineer seE = new softwareEngineer("Libby");
      softwareEngineer seF = new softwareEngineer("Gizan");
      softwareEngineer seG = new softwareEngineer("Zaynah");

      VPofENG.addReport(seD);
      VPofENG.addReport(seE);
      VPofENG.addReport(seF);
      VPofENG.addReport(seG);

      System.out.println(VPofENG.getTeamStatus());

      businessLead CFO = new businessLead("Amy Hood");

      accountant actA = new accountant("Nicky");

      accountant actB = new accountant("Andrew");
```

```
        CFO.addReport(actA, CTO);
        CFO.addReport(actB, VPofENG);

        System.out.println(CFO.getTeamStatus());
    }
}
```