
 <div>Universiti Malaysia PAHANG <small>Engineering • Technology • Creativity</small></div>	FACULTY OF COMPUTER SYSTEMS & SOFTWARE ENGINEERING			MARKS:
	COURSE: Object Oriented Programming		CODE: BCS2143	
	TOPIC: Classes, Objects & Relationship			
	ASSESSMENT: HOT	NUM: 1	DURATION: 2 Hours	

Name: \_\_\_\_\_ MATRIC NUM: \_\_\_\_\_

### GENERAL INSTRUCTIONS :

1. Please name your project/folder using your id.  
Example: **CB11001**.
2. After finished, **zip your folder** (right click folder -> Send to -> Compressed (zipped) folder) and **submit online using moodle**.
3. This HOT will carried out 20% of your final mark.


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Write a complete *Main* class, *Company* class, *CompanyStaff* class, *StaffIncome* class and *StaffLoan* class to produce the output as Figure 1.

You **must** use the portion of *Main* class in **Figure 2** and the portion of **UML diagram in Figure 3** to develop your programme.

Calculation for net income is given: net income = total income – total loan


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<p style="text-align: center;">STAFF INCOME REPORT =====</p> <p>Staff Name: Syahrir Position: Project Manager Basic Salary: Amount per month is \$10000.00 Bonuses: Amount per month is \$5000.00 House Loan: Loan per month is \$2000.00 Car Loan: Loan per month is \$2000.00 Total Income per month is: \$15000.00 Total Loan per month is: \$4000.00 Net Income per month: \$11000.00</p> <p>Staff Name: Adrian Position: Software Designer Basic Salary: Amount per month is \$8000.00 House Loan: Loan per month is \$2000.00 Car Loan: Loan per month is \$1000.00 Total Income per month is: \$8000.00 Total Loan per month is: \$3000.00 Net Income per month: \$5000.00</p> <p>Staff Name: Nabilah Position: Senior Programmer Basic Salary: Amount per month is \$6000.00 Overtime Allowance: Amount per month is \$2000.00 Car Loan: Loan per month is \$1000.00 Total Income per month is: \$8000.00 Total Loan per month is: \$1000.00 Net Income per month: \$7000.00</p>
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Figure 1

 <div>Universiti Malaysia PAHANG <small>Engineering • Technology • Creativity</small></div>	FACULTY OF COMPUTER SYSTEMS & SOFTWARE ENGINEERING			MARKS:
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```
import java.text.*;
public class Main {

    public static void main(String[] args) {

        DecimalFormat df = new DecimalFormat("0.00");
        Company    company = new Company();
        CompanyStaff staff;

        company.addEmployee("Syahrir","Project Manager");
        staff = company.getStaff(0);
        staff.addStaffIncome(new StaffIncome("Basic Salary",10000.00));
        staff.addStaffIncome(new StaffIncome("Bonuses",5000.00));
        staff.addStaffLoan(new StaffLoan("House Loan",2000.00));
        staff.addStaffLoan(new StaffLoan("Car Loan",2000.00));


        company.addEmployee("Adrian","Software Designer");
        staff = company.getStaff(1);
        staff.addStaffIncome(new StaffIncome("Basic Salary",8000.00));
        staff.addStaffLoan(new StaffLoan("House Loan",2000.00));
        staff.addStaffLoan(new StaffLoan("Car Loan",1000.00));

        company.addEmployee("Nabilah","Senior Programmer");
        staff = company.getStaff(2);
        staff.addStaffIncome(new StaffIncome("Basic Salary",6000.00));
        staff.addStaffIncome(new StaffIncome("Overtime Allowance",2000.00));
        staff.addStaffLoan(new StaffLoan("Car Loan",1000.00));

        // Generate a report
        //complete your code for main class here

    }
```

Figure 2

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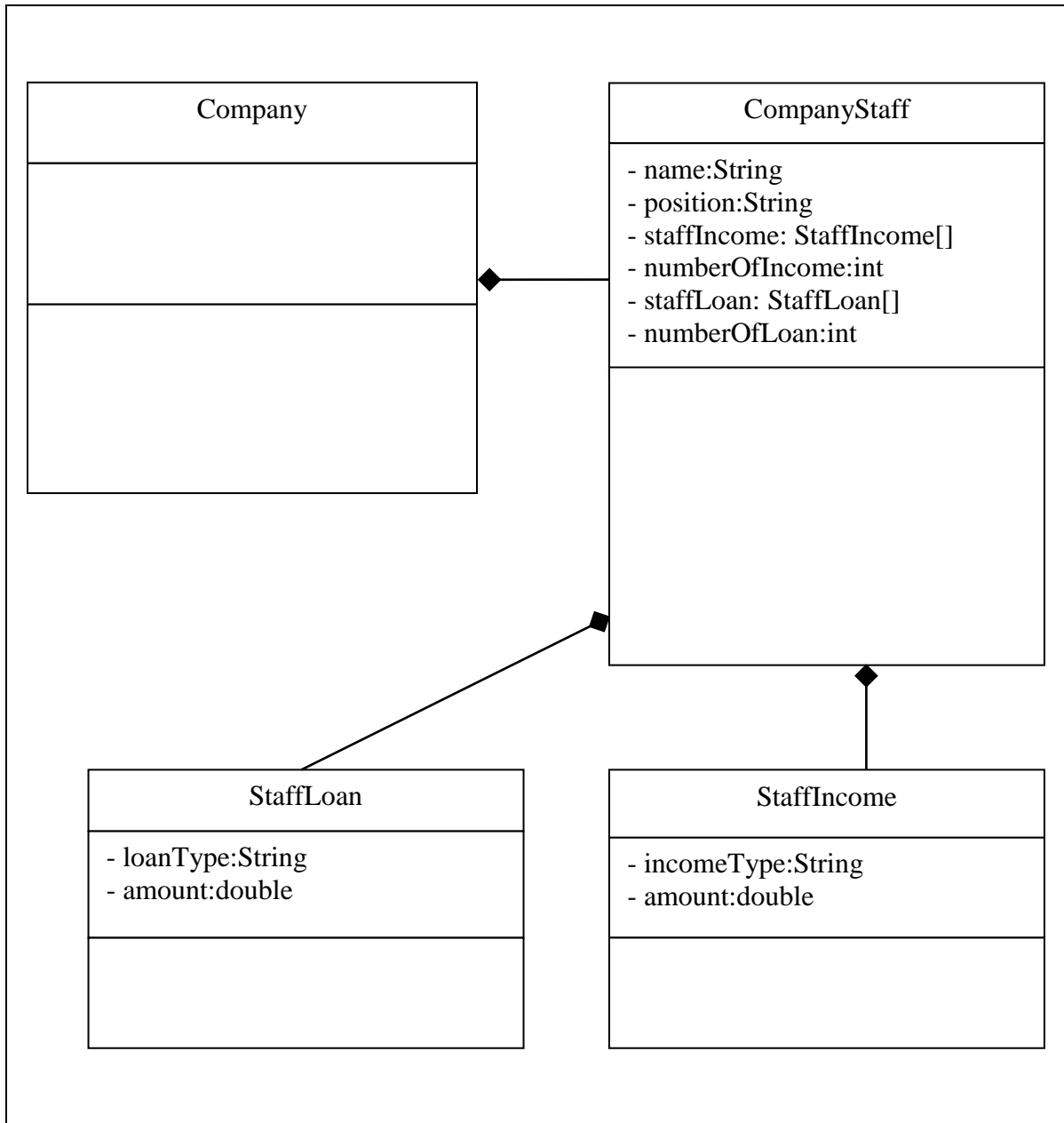


Figure 3

**END OF QUESTION PAPER**