UMS
UNIVERSITI MALAYSIA SABAH

KK14203 OBJECT ORIENTED PROGRAMMING

SEMESTER II

SESSION 2019/2020

ASSIGNMENT 2
INDIVIDUAL

PAYROLL SYSTEM

LECTURER: Madam Siti Hasnah Tanalol

NAME	MATRIC NUMBER
Mohammad Ariff Bin Kassim	BI19110142

Introduction

The term payroll encompasses every employee of a company.. Some employees may be paid a steady salary while others are paid for hours worked or the number of items produced. All of these different payment methods are calculated by a payroll specialist and the appropriate pay checks are issued. Companies often use objective measuring tools such as timecards or timesheets completed by supervisors to determine the total amount of payroll due each pay period.

A payroll system is software designed to organize all the tasks of employee payment and the filing of employee taxes. These tasks can include keeping track of hours, calculating gross salary and deductions, printing and delivering checks.

Payroll software often requires very little input from the employer. The employer is required to input employee wage information and hours then the software calculates the information and performs withholdings automatically.

Payroll system are used by many company of all size to check and record working hours of employees primarily to calculate and pay their wages. Some companies have a requirement to record the number of hours spent on a specific tasks to know the hours an employee worked so as to pay their wages.

The objectives of this system are:

1. To design a system that tracks and optimizes the hours that employees spend on their job.

2. To design a system that will achieve company objectives and deliver a variety possibilities enforced both by the law and the company's policy.

3. To identify the requirements of the system

4. To design payroll system accurately.

5. To maintain the information regarding the employee and generates the pay slip

6. To provide a system that will ease and lessen the work of the secretary in writing salary reports of each employee. The secretary will be using a system with just a click on the mouse, all the salary reports will be done by the computer.

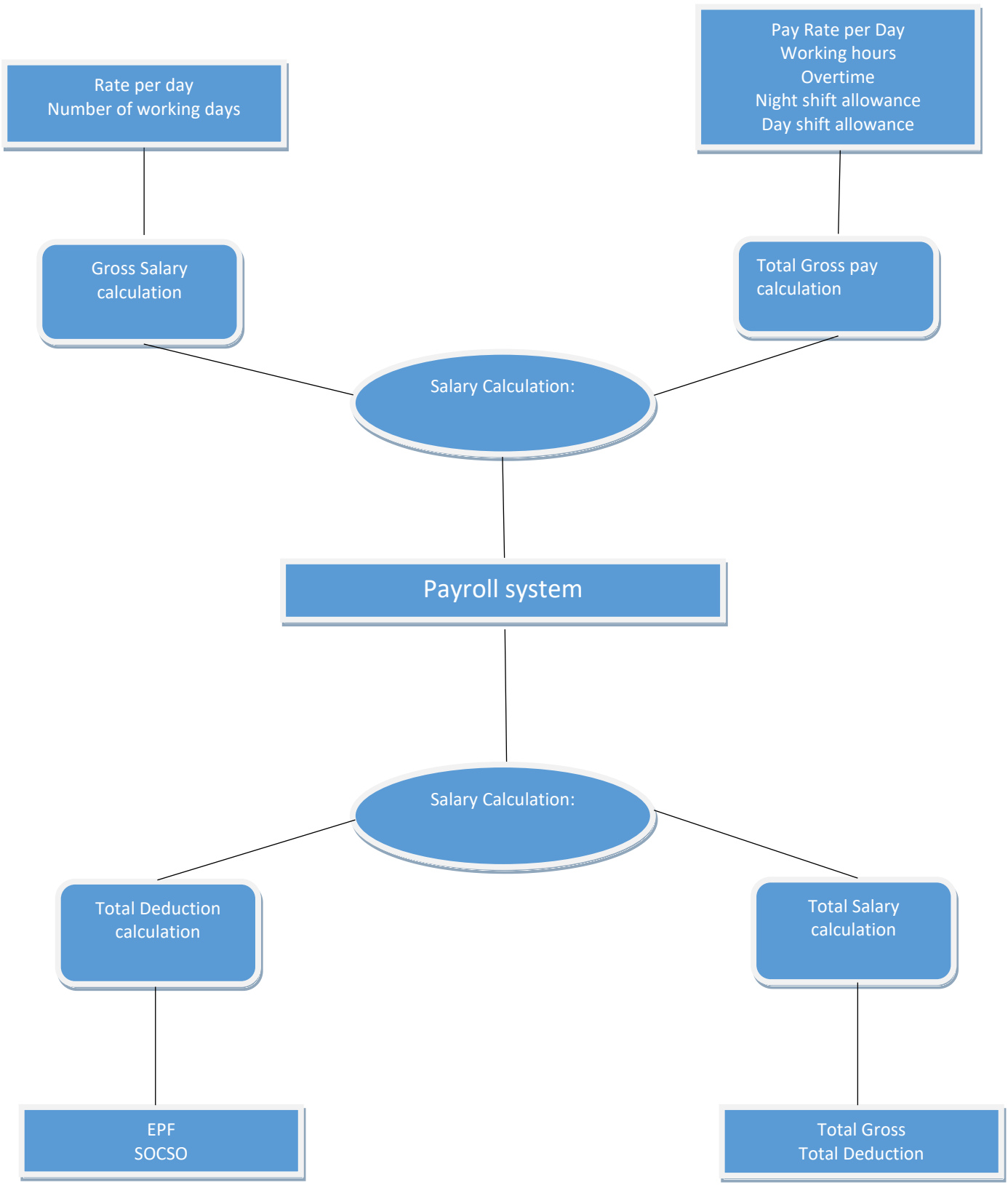
Scope/Proposed works

1. Employee Database
    a. Employee Details
        - Employee Id, Name.
    b. Department
        - Department , employee id, department name

2. Calculate salary
    a. Employee Detail
        - Employee id, Department, Employee Name
    b. Gross pay calculation
        - Rate per day, number of working days
    c. Total Deduction calculation
        - EPF , SOCSO
    d. Total Gross pay calculation
        - Gross salary, total overtime, day shift allowance, night shift allowance
    e. Total Salary pay calculation
        - Total Gross salary, total deduction

Object Oriented Concept Implementation

1. Inheritance
2. Polymorphism
3. Object and classes
4. Interface
5. Exception Handling


Rate per day
Number of working days
Pay Rate per Day
Working hours
Overtime
Night shift allowance
Day shift allowance
Gross Salary calculation
Total Gross pay calculation
Salary Calculation:
Payroll system
Salary Calculation:
Total Deduction calculation
Total Salary calculation
EPF
SOCSO
Total Gross
Total Deduction

Coding

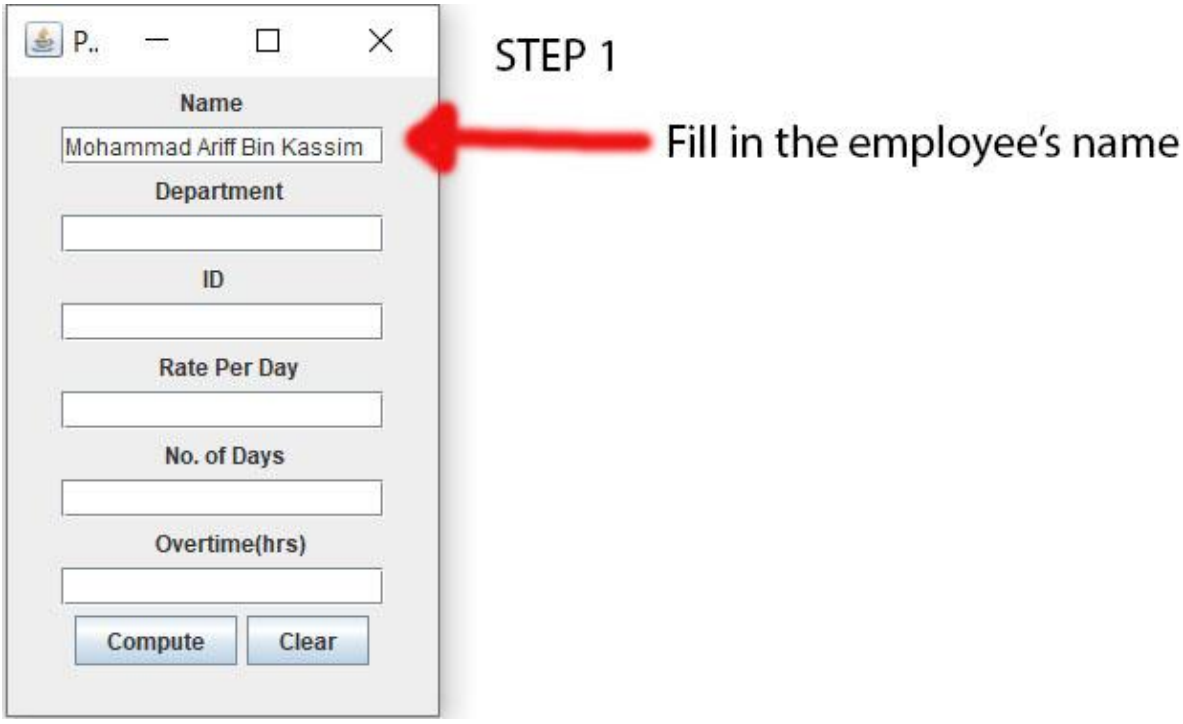
```
/**
 */
package bi19110142_payroll;

/**
 *
 * @author Mohammad Ariff Bin Kassim BI19110142
 */

import javax.swing.*; //import java swing class
import java.awt.*; //import java awt class
import java.awt.event.*; //import java awt event class


public class Bi19110142_Payroll extends JFrame implements ActionListener {

        JTextField emp_name = new JTextField(15); //Create an employee's name text field instance
        JTextField depart     = new JTextField(15); //Create an employee's department text field
instance
    JTextField emp_id = new JTextField(15); //Create an employee's id text field instance
        JTextField rate     = new JTextField(15); //Create a rate per day text field instance
        JTextField days     = new JTextField(15); //Create a number of working days text field instance
    JTextField ot     = new JTextField(15);  //Create an overtime text field instance


        JButton Compute = new JButton("Compute");  //Create compute button
        JButton Clear   = new JButton("Clear"); //Create clear button


   JLabel emp_label2 = new JLabel(); //Create an employee's name text-based panel
   JLabel depart_label2 = new JLabel(); //Create an employee's department text-based panel
   JLabel id_label2 = new JLabel(); //Create an employee's id text-based panel
   JLabel ot_label2 = new JLabel(); //Create an overtime text-based panel
   JLabel dsall_label2 = new JLabel(); //Create a day shift allowance text-based panel
   JLabel nsall_label2 = new JLabel(); //Create a night shift allowance text-based panel
   JLabel epf_label2 = new JLabel(); //Create an epf text-based panel
   JLabel socso_label2 = new JLabel(); //Create a socso text-based panel
   JLabel gross = new JLabel(); //Create a gross salary text-based panel
   JLabel totalgross_label2 = new JLabel(); //Create a total gross salary text-based panel
   JLabel totaldeduction_label2 = new JLabel(); //Create a total deduction salary text-based panel
   JLabel totalsalary_label2 = new JLabel(); //Create a total salary text-based panel
   JLabel report = new JLabel(); //Create a report text-based panel

   double dsall = 100; //declare value of day shift allowance
   double nsall = 200; //declare value of night shift allowance
   double calcot = 0.00; //declare value of overtime calculation allowance
   double grosssolve = 0.00; //declare value of gross calculation allowance
   double calcepf = 0.00; //declare value of epf calculation allowance
   double calcsocso = 0.00; //declare value of socso calculation allowance
```

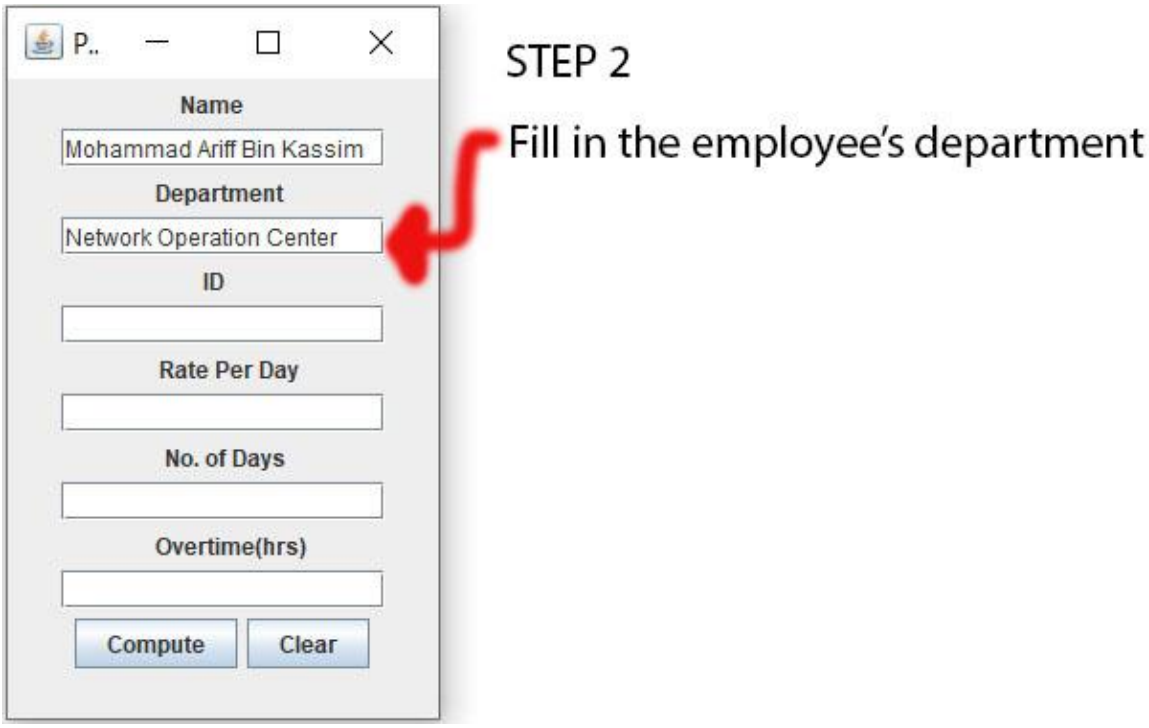
```
    double totalgross = 0.00; //declare value of total gross salary calculation allowance
    double totaldeduction = 0.00; //declare value of total deduction calculation allowance
    double totalsalary = 0.00; //declare value of total salary calculation allowance

public Bi19110142_Payroll() {

  super("Payroll System"); //create a new Jframe container
  setSize(243,380); //Give the frame an initial size
  setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE); //Terminate the programe when we close the
application

  JPanel pane = new JPanel();

  JLabel emp_name_label = new JLabel("     Name        "); //create an employee's name text-based
panel
  JLabel depart_label    = new JLabel("   Department    "); //create an employee's name department
text-based panel
  JLabel id_label    = new JLabel("       ID          "); //create an employee's id text-based panel
  JLabel rate_label    = new JLabel("   Rate Per Day "); //create a rate per day text-based panel
  JLabel days_label    = new JLabel("   No. of Days  "); //create a number of working days text-based
panel
  JLabel ot_label    = new JLabel("   Overtime(hrs)"); //create an overtime text-based panel

  pane.add(emp_name_label); //Add the employee's name label to the frame
  pane.add(emp_name); //Add the employee's name label to the frame

  pane.add(depart_label); //Add the employee's department label to the frame
  pane.add(depart); //Add the employee's department label to the frame

  pane.add(id_label); //Add the employee's id label to the frame
  pane.add(emp_id); //Add the employee's id label to the frame

  pane.add(rate_label); //Add the rate per day label to the frame
  pane.add(rate); //Add the rate per day label to the frame

  pane.add(days_label); //Add the number of working days label to the frame
  pane.add(days); //Add the number of working days label to the frame

  pane.add(ot_label); //Add the overtime label to the frame
  pane.add(ot); //Add the overtime label to the frame

  pane.add(Compute); //Add the compute button to the frame
  pane.add(Clear); //Add the clear button to the frame

  Compute.addActionListener(this); //Add action listener
  Clear.addActionListener(this); //Add action listener
  Compute.setToolTipText("Click here to solve the salary."); //Add tool tip text
  Clear.setToolTipText("Click here to clear text fields."); //Add tool tip text


  add(pane); //To create pane
```

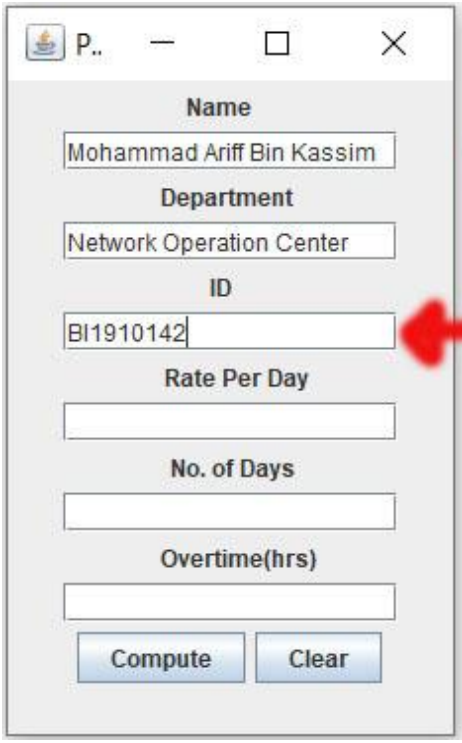
```
 setVisible(true); //Display the frame

} //end public

   //Handle the button
   public void actionPerformed(ActionEvent e) {

      //compute button action performed
      if (Compute == e.getSource()) {
         String name = emp_name.getText(); //To get employee's name text
         String depart2 = depart.getText(); //To get employee's department text
         String id2 = emp_id.getText(); //To get employee's id text

         double emp_rate = Double.parseDouble(rate.getText());  //To get rate per day text
         int emp_days = Integer.parseInt(days.getText());  //To get number of working days text
         int ot_days = Integer.parseInt(ot.getText());  //To get overtime text

         calcot = (emp_rate / 8 * ot_days); //overtime calculation formula
         grosssolve = (emp_rate * emp_days); //gross salary calculation formula
         totalgross = (calcot + dsall + nsall + grosssolve); //total gross salary calculation formula
         calcepf = (emp_rate * 7 / 100) * emp_days; //epf calculation formula
         calcsocso = (emp_rate * 2 / 100) * emp_days; //socso calculation formula
         totaldeduction = calcepf + calcsocso; //total deduction calculation formula
         totalsalary = totalgross - totaldeduction; //total salary calculation formula


         try {
            //compute button action performed
            if (e.getSource() == Compute) {

               JOptionPane.showMessageDialog(null, "=== Salary Report ===" //to show salary report
text
                     + "\n\n Employee's Name  : " + name //to show employee's name output
                     + "\n Department : " + depart2 //to show employee's department output
                     + "\n Employee's ID  : "+ id2  //to show employee's id output
                     + "\n\n Gross Salary : RM " + String.format("%.2f", grosssolve) //to show gross salary
output
                     + "\n Total Overtime : RM " + String.format("%.2f", calcot)  //to show overtime
output
                     + "\n Day Shift Allowance : RM " + String.format("%.2f", dsall)  //to show day shift
allowance output
                     + "\n Night Shift Allowance : RM " + String.format("%.2f", nsall)  //to show night shift
allowance output
                     + "\n\n EPF : RM " + String.format("%.2f", calcepf)  //to show epf output
                     + "\n SOCSO : RM " + String.format("%.2f", calcsocso)  //to show socso output
                     + "\n\n Total Gross Salary : RM " + String.format("%.2f", totalgross) //to show total
gross salary output
                     + "\n Total Deduction : RM " + String.format("%.2f", totaldeduction)  //to show total
deduction output
```

```
                    + "\n Total Salary : RM " + String.format("%.2f", totalsalary));   //to show total salary
output
            } //end if

          } //end try

          catch (NumberFormatException nfe) {

             JOptionPane.showMessageDialog(null, "You have entered invalid input",
                  "Warning", JOptionPane.ERROR_MESSAGE); //to add the output to another frame
          } //end catch

        } //end if

          //clear button action performed
          else if (Clear == e.getSource()) {

           emp_name.setText(""); //to create an employee's name text-based panel
           depart.setText(""); //to create an employee's department text-based panel
           emp_id.setText(""); //to create an employee's id text-based panel
           rate.setText(""); //to create a rate per day text-based panel
           days.setText(""); //to create a number of working days text-based panel
           report.setText(""); //to create a report text-based panel
           emp_label2.setText(""); //to create an employee's name text-based panel
           depart_label2.setText(""); //to create an employee's department text-based panel
           id_label2.setText(""); //to create an employee's id text-based panel
           ot_label2.setText(""); //to create an overtime text-based panel
           ot.setText(""); //to create an overtime text-based panel
           dsall_label2.setText(""); //to create a day shift allowance text-based panel
           nsall_label2.setText(""); //to create a night shift allowance text-based panel
           gross.setText(""); //to create a gross salary text-based panel
           totalgross_label2.setText(""); //to create a total gross salary text-based panel
           epf_label2.setText(""); //to create an epf text-based panel
           socso_label2.setText(""); //to create a socso text-based panel
           totaldeduction_label2.setText(""); //to create a total deduction text-based panel
           totalsalary_label2.setText(""); //to create a total salary text-based panel

       } //end if else

    } //end public void

    public static void main(String[] args) {
       //create the frame on the event dispatching thread
       Bi19110142_Payroll employee = new Bi19110142_Payroll();

    } // end public static void

} //end public class
```

User Manual

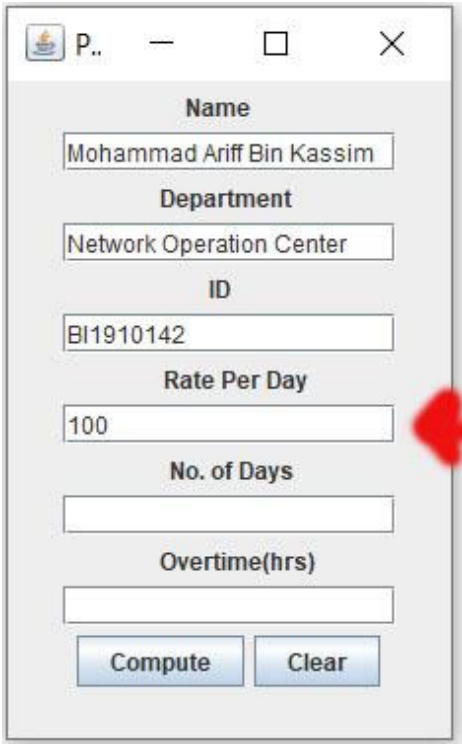

P..
Name
Mohammad Ariff Bin Kassim
Department
ID
Rate Per Day
No. of Days
Overtime(hrs)
Compute
Clear
STEP 1
Fill in the employee's name


P..
Name
Mohammad Ariff Bin Kassim
Department
Network Operation Center
ID
Rate Per Day
No. of Days
Overtime(hrs)
Compute
Clear
STEP 2
Fill in the employee's department



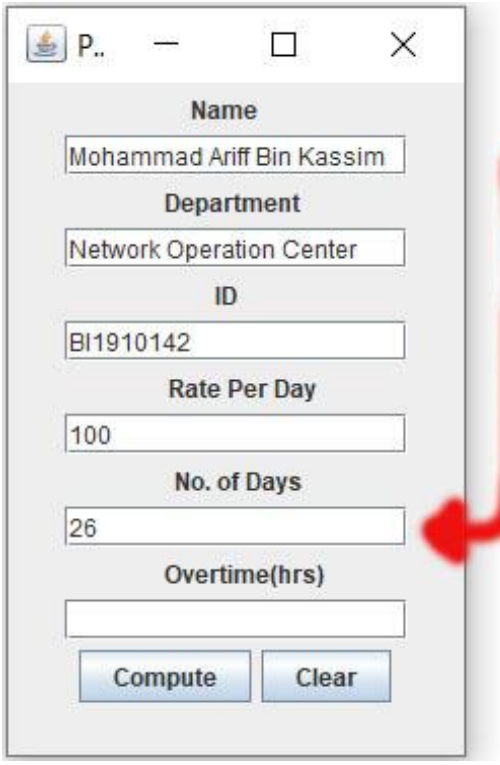
STEP 3

Fill in the employee's id



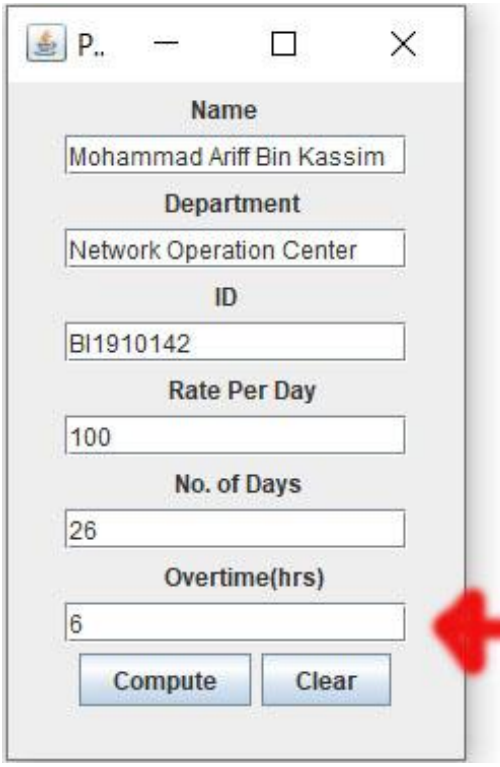
STEP 4

Fill in the rate per day of work employee



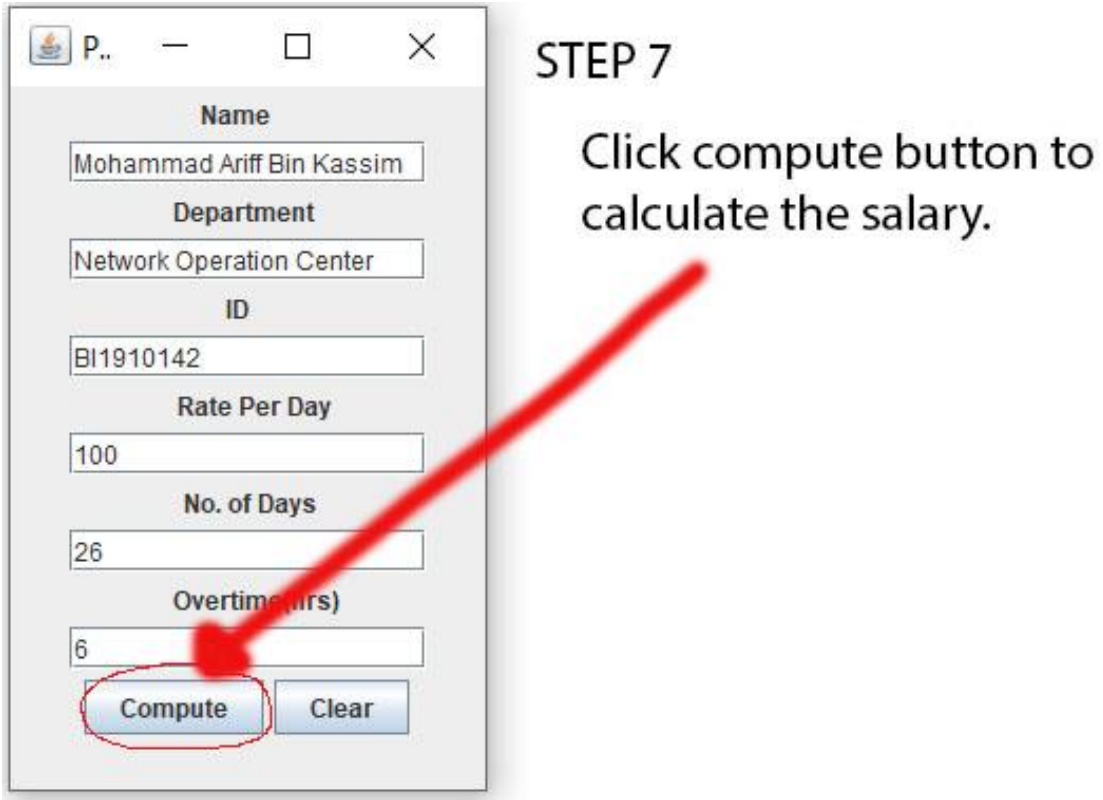
STEP 5

Fill in the number of working days

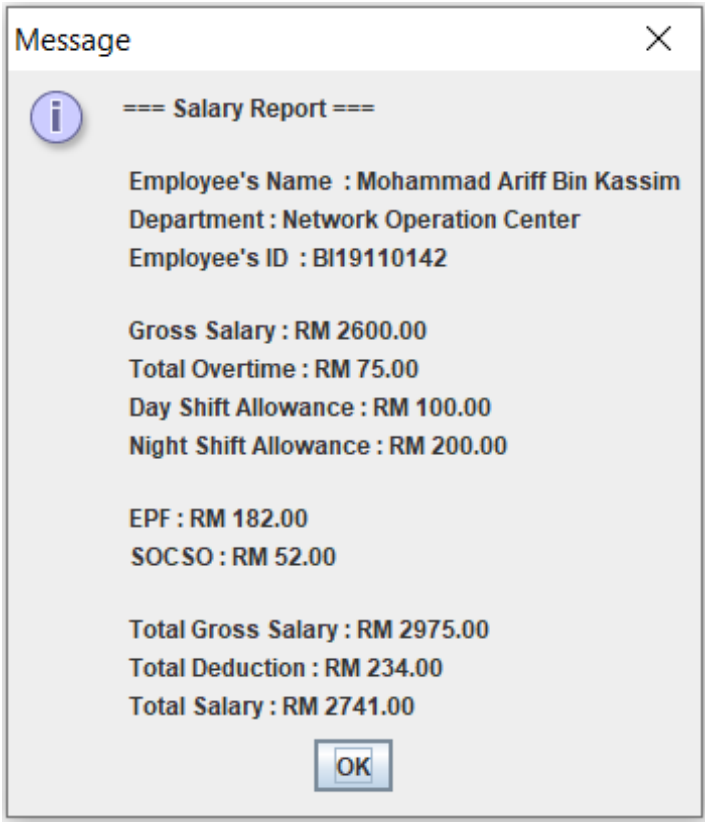


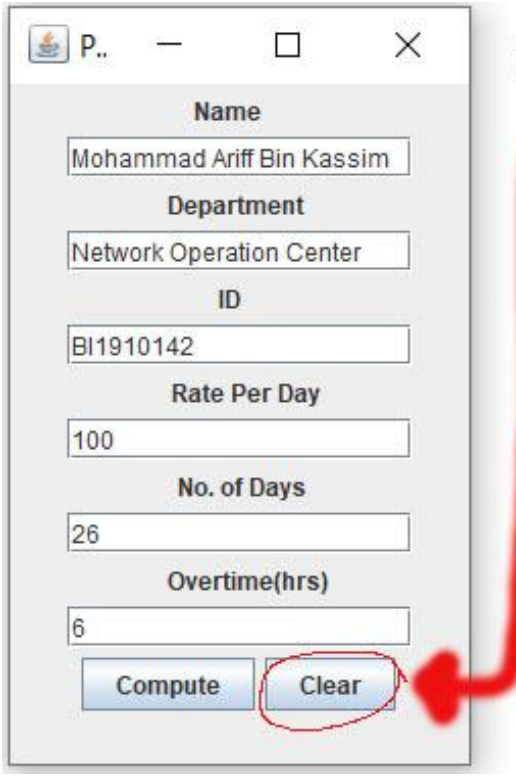
STEP 6

Fill in the overtime in hours



The output will be like this :



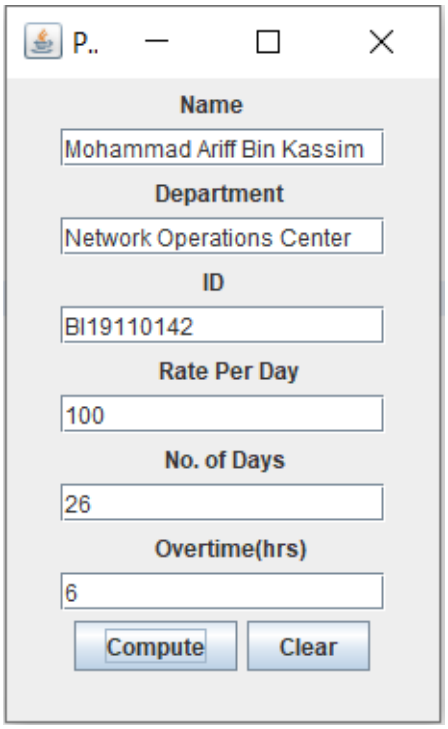


STEP 8

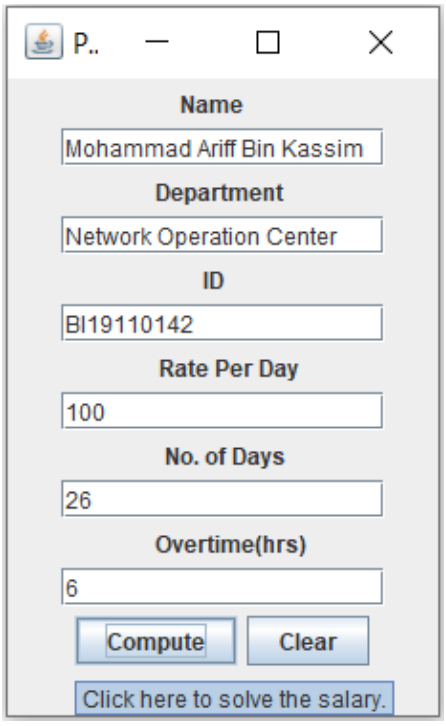
Click clear button to clear the details

Coding Output

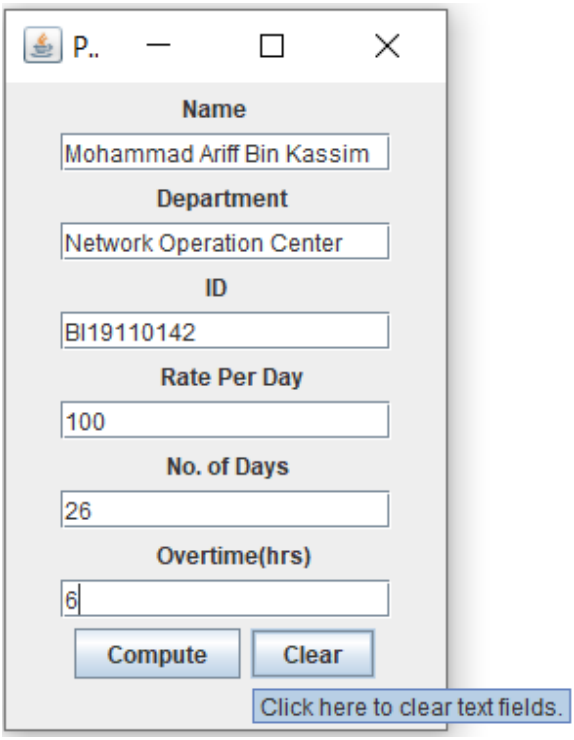
First frame output



Compute tool tip text



Clear tool tip text



Second frame output

Conclusion

In conclusion, this payroll system is designed for the enhancement or development of Computerized Payroll System. It includes the features that can Add Employees record, Edit Employees information, Clear Employees record, print / Save the Pay Slip of each employee as well as the rate per day, overtime, allowances, Gross salary, Total Gross payment, and Deduction of EPF and SOCSO, adding up with , a log-in log-out process for security purpose. Moreover, with help file can be used by the users to know how to use the payroll software.