Salary App

Unit-14

Contents

Introduction

As a programmer at Silver Star Company, I'm developing accounting software tailored to Aung Yandanar's requirements. Aung Yandanar, a publishing firm with 500+ employees, needs efficient payroll management. This software will automate salary calculations, track bonuses, and ensure timely payments.

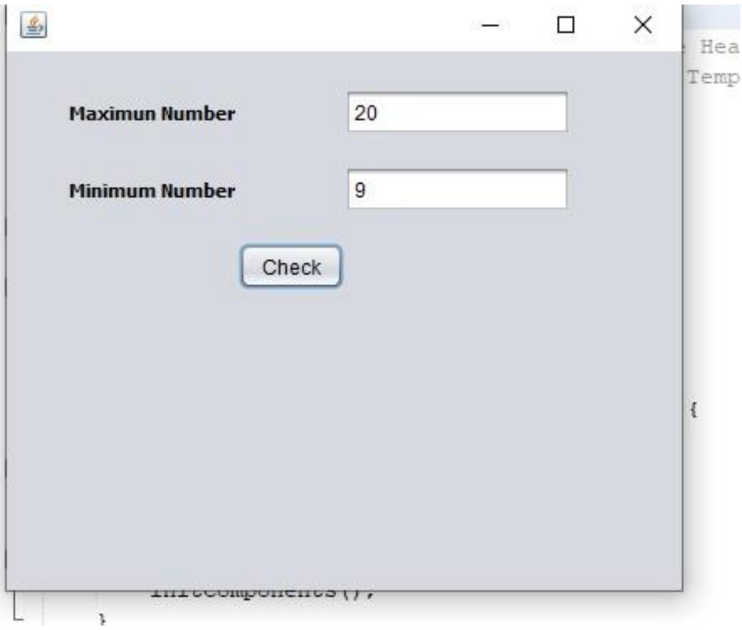
Key payroll features:

- Employee categories and base salaries:
    1. Manager - 500,000 Kyats
    2. Supervisor - 300,000 Kyats
    3. Office Staff - 250,000 Kyats
    4. Cleaner - 100,000 Kyats
- Bonuses:
    - Attendance: 20,000 Kyats (no leave)
    - Punctuality: 10,000 Kyats (no lateness)
- Travel allowance: 500 Kyats/day
- Work hours: 9:00 am - 5:00 pm, closed Sundays and holidays.

The software will streamline payroll calculations, ensuring compliance and accuracy.

Demonstrate the use of event driven tools and techniques

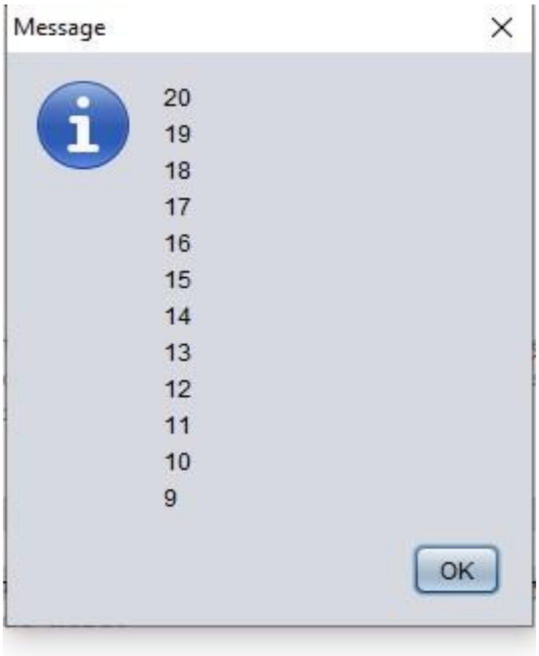
Number 2



Maximun Number 20

Minimum Number 9

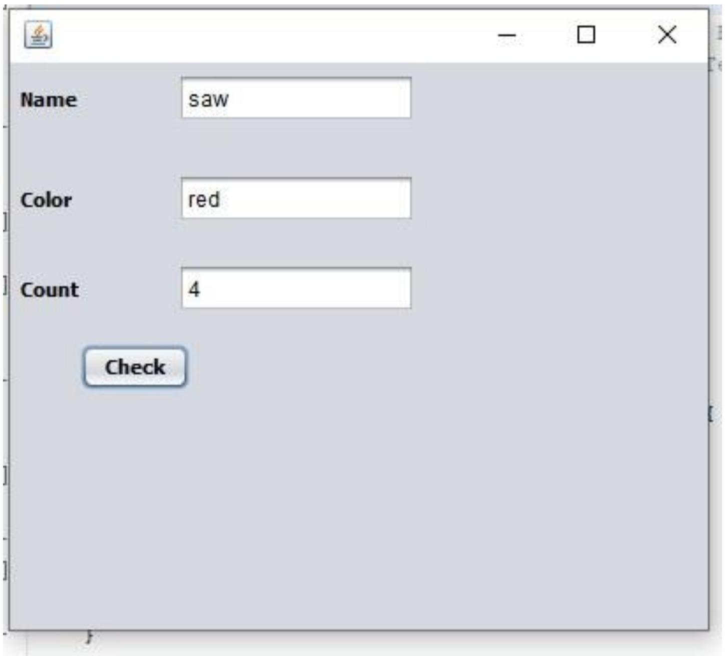
Check BTN



Message

```
20
19
18
17
16
15
14
13
12
11
10
9
```

Number 4

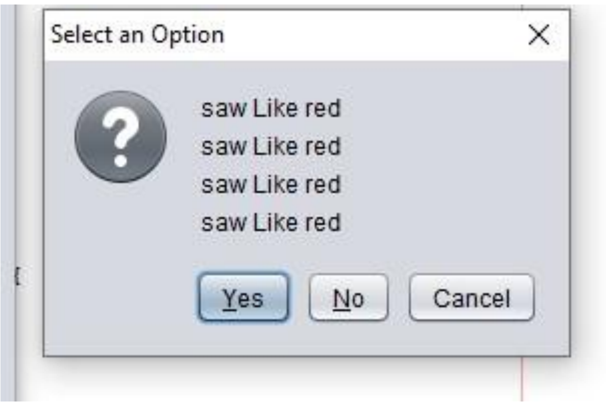


Name saw

Color red

Count 4

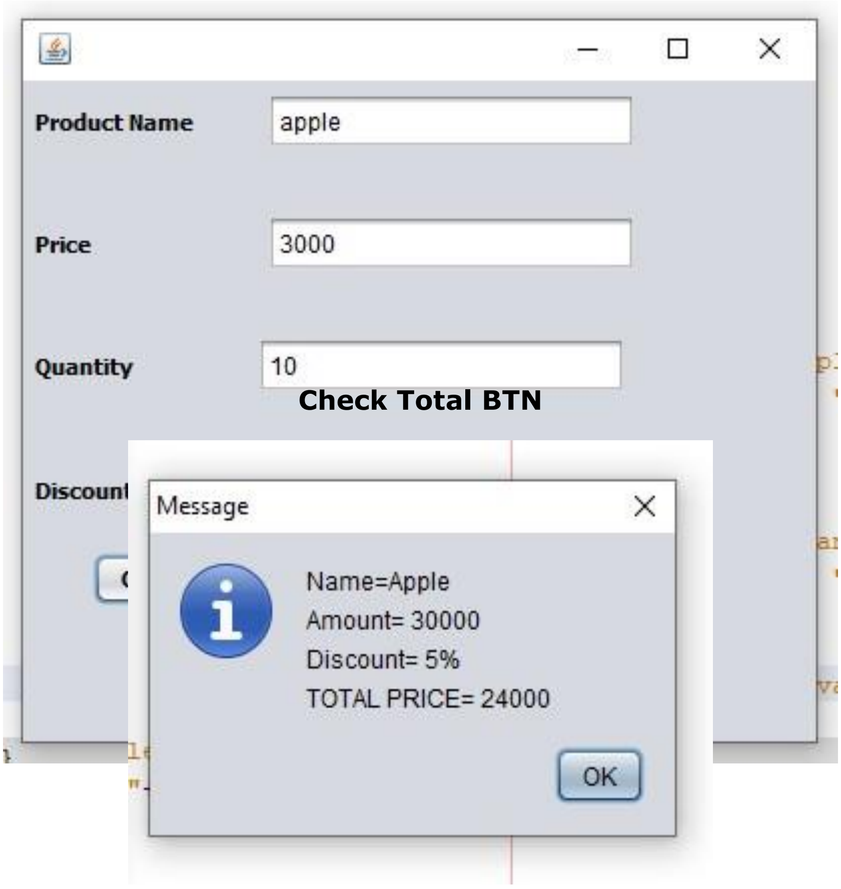
Check BTN



Select an Option

saw Like red
saw Like red
saw Like red
saw Like red

Number 5



Product Name apple

Price 3000

Quantity 10

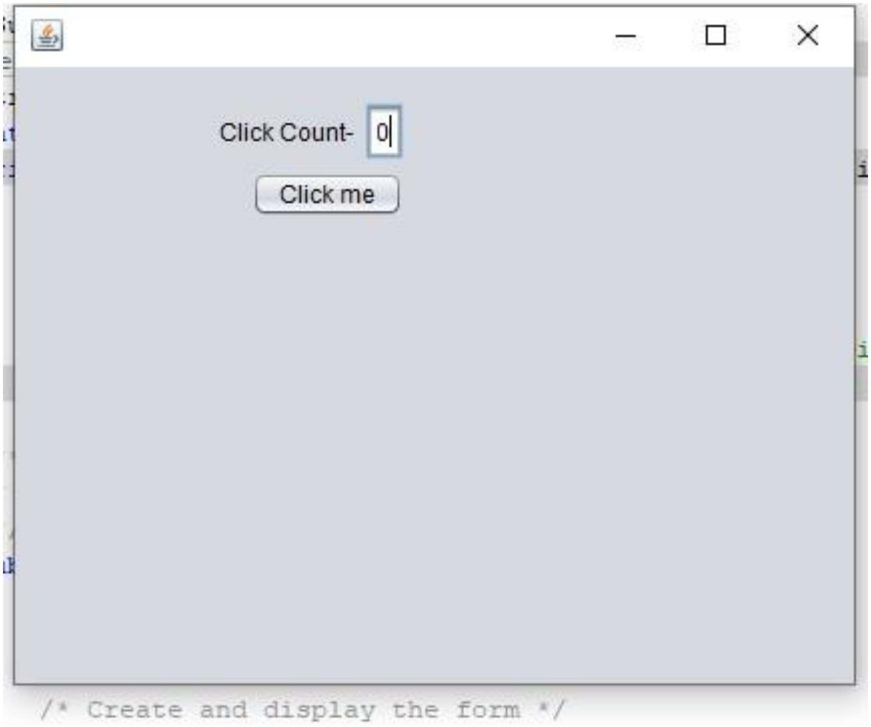
Check Total BTN

Discount

Message

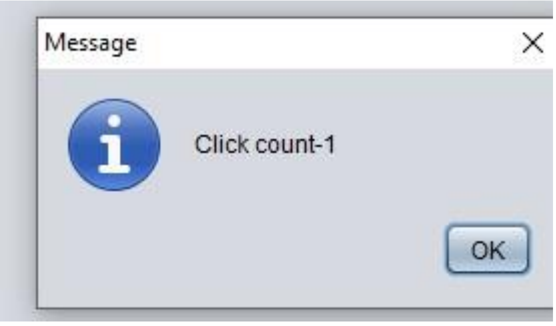
Name=Apple
Amount= 30000
Discount= 5%
TOTAL PRICE= 24000

Number 8



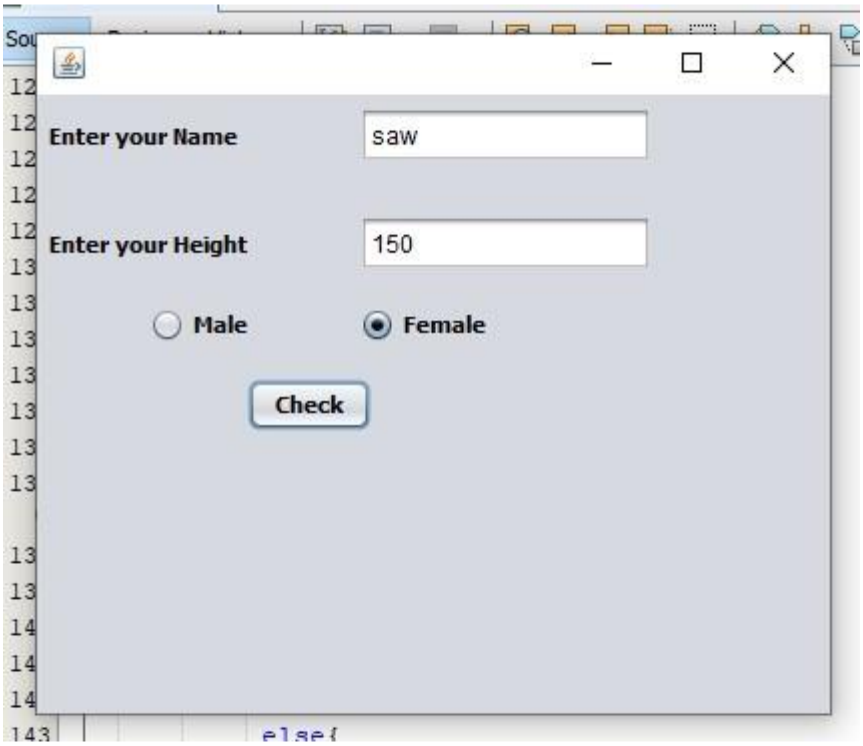
Click me BTN

The number increases every time you press the “Click me” button.


Message

Click count-1

Number 9


Enter your Name: saw

Enter your Height: 150

○ Male ● Female

Check BTN

For male,

If height is more than 175, he is tall.

If height is between 174 & 150, he is normal.

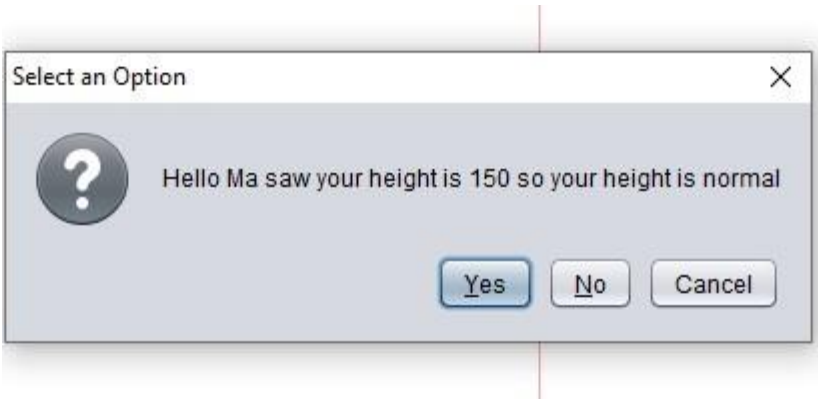
If height is under 150, he is short.

For female,

If height is more than 160, she is tall.

If height is between 160-130, she is normal.

If height is under 130, she is short.



Select an Option

Hello Ma saw your height is 150 so your height is normal

Discuss how an operating system can be viewed as an event driven application

M1

Discuss how an operating system can be viewed as an event driven application

Saw Win New
Gusto University
EDP Unit-14

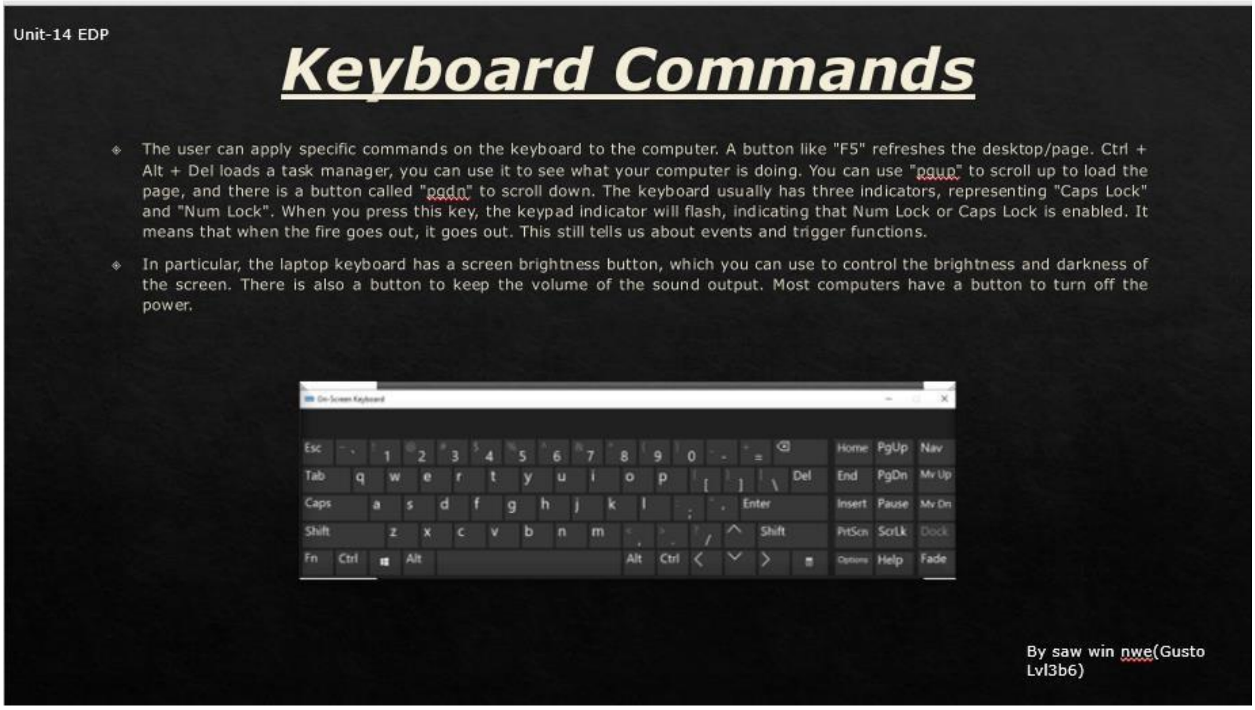
Unit-14 EDP

User Profile

The operating system can have multiple user profiles. Clicking on your profile will prompt you to enter your password. If the user obtains the correct password, it will load his personal desktop where personal files are stored. You can change the desktop, you can change the font under the icon, change the background, change the color of the taskbar, and even change the resolution. It depends on the user who triggered the event and can be run by right-clicking and clicking properties. Events are usually generated or influenced by users, but some events can happen automatically. For example, if the operating system has been running for a while, the screen may be blurred and the display may disappear. This event occurs when the operating system is set to "Do". If the operating system is set to shut down after 30 minutes and then shut down again after 1 hour, an event that occurs within a period of time.

By saw win nwe(Gusto Lvl3b6)

Page 1



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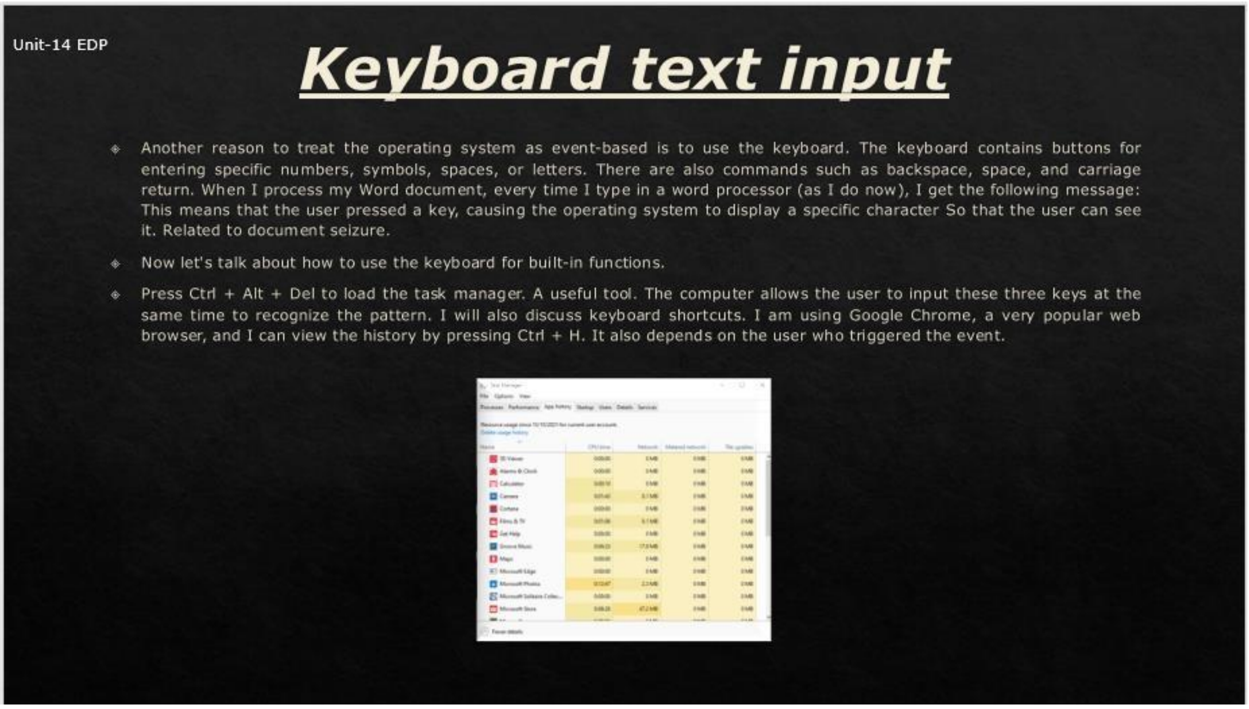
Keyboard Commands

- The user can apply specific commands on the keyboard to the computer. A button like "F5" refreshes the desktop/page. Ctrl + Alt + Del loads a task manager, you can use it to see what your computer is doing. You can use "pgup" to scroll up to load the page, and there is a button called "pgdn" to scroll down. The keyboard usually has three indicators, representing "Caps Lock" and "Num Lock". When you press this key, the keypad indicator will flash, indicating that Num Lock or Caps Lock is enabled. It means that when the fire goes out, it goes out. This still tells us about events and trigger functions.
- In particular, the laptop keyboard has a screen brightness button, which you can use to control the brightness and darkness of the screen. There is also a button to keep the volume of the sound output. Most computers have a button to turn off the power.

By saw win nwe(Gusto Lvl3b6)

Page 2

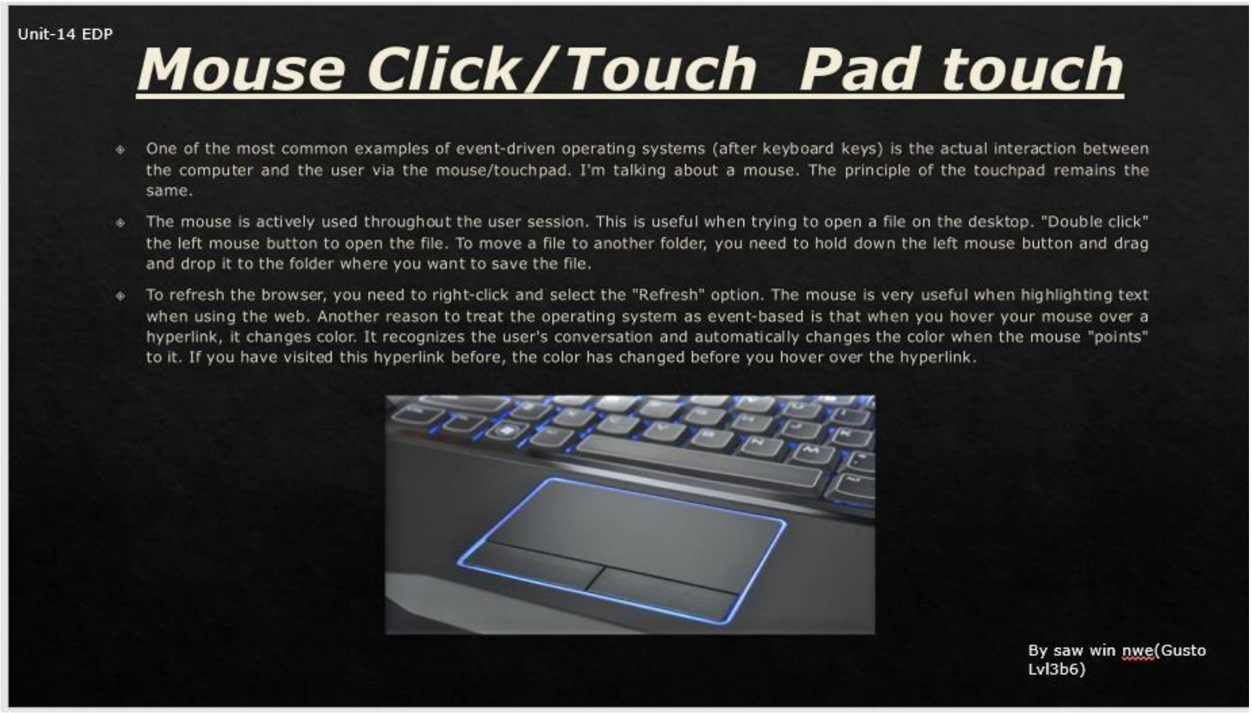


Unit-14 EDP

Keyboard text input

- Another reason to treat the operating system as event-based is to use the keyboard. The keyboard contains buttons for entering specific numbers, symbols, spaces, or letters. There are also commands such as backspace, space, and carriage return. When I process my Word document, every time I type in a word processor (as I do now), I get the following message: This means that the user pressed a key, causing the operating system to display a specific character So that the user can see it. Related to document seizure.
- Now let's talk about how to use the keyboard for built-in functions.
- Press Ctrl + Alt + Del to load the task manager. A useful tool. The computer allows the user to input these three keys at the same time to recognize the pattern. I will also discuss keyboard shortcuts. I am using Google Chrome, a very popular web browser, and I can view the history by pressing Ctrl + H. It also depends on the user who triggered the event.

Page 3



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Mouse Click/Touch Pad touch

- One of the most common examples of event-driven operating systems (after keyboard keys) is the actual interaction between the computer and the user via the mouse/touchpad. I'm talking about a mouse. The principle of the touchpad remains the same.
- The mouse is actively used throughout the user session. This is useful when trying to open a file on the desktop. "Double click" the left mouse button to open the file. To move a file to another folder, you need to hold down the left mouse button and drag and drop it to the folder where you want to save the file.
- To refresh the browser, you need to right-click and select the "Refresh" option. The mouse is very useful when highlighting text when using the web. Another reason to treat the operating system as event-based is that when you hover your mouse over a hyperlink, it changes color. It recognizes the user's conversation and automatically changes the color when the mouse "points" to it. If you have visited this hyperlink before, the color has changed before you hover over the hyperlink.

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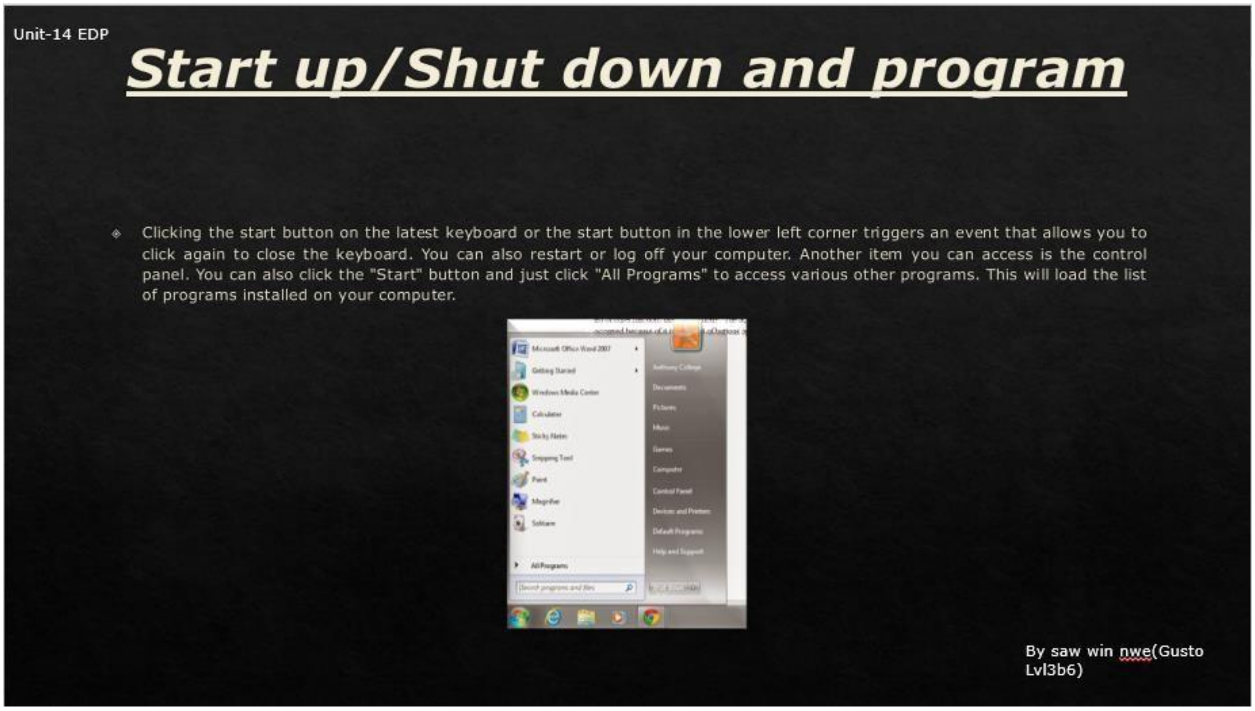

Unit-14 EDP

Start up/Shut down and program

- Clicking the start button on the latest keyboard or the start button in the lower left corner triggers an event that allows you to click again to close the keyboard. You can also restart or log off your computer. Another item you can access is the control panel. You can also click the "Start" button and just click "All Programs" to access various other programs. This will load the list of programs installed on your computer.

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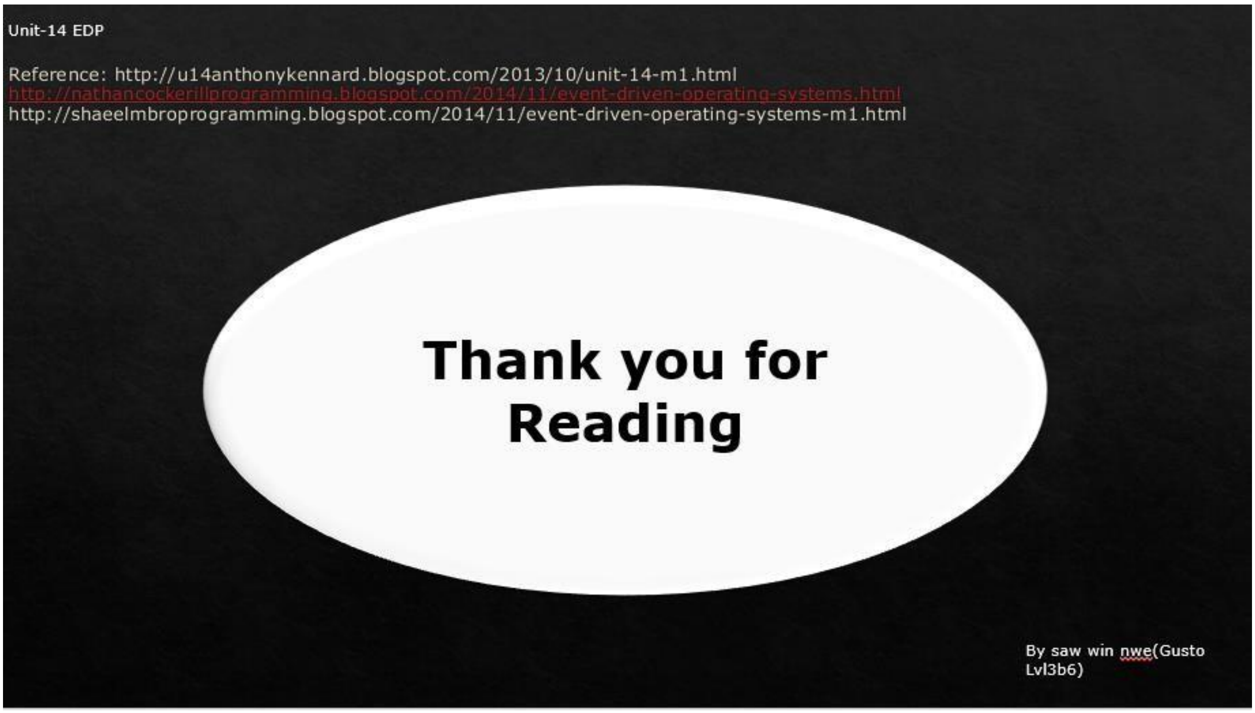


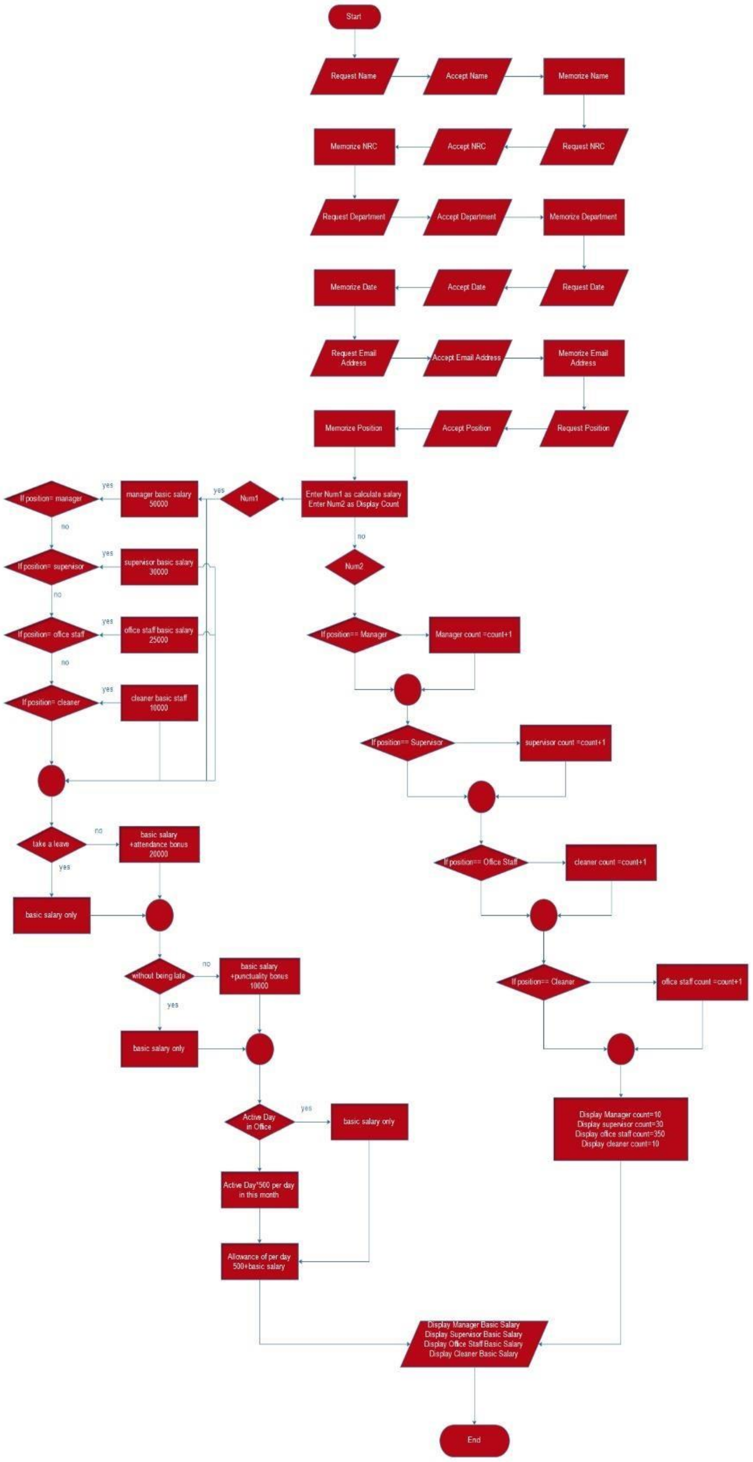
Unit-14 EDP

Reference: http://u14anthonykennard.blogspot.com/2013/10/unit-14-m1.html
http://nathancockerillprogramming.blogspot.com/2014/11/event-driven-operating-systems.html
http://shaeelmbroprogramming.blogspot.com/2014/11/event-driven-operating-systems-m1.html

Thank you for Reading

By saw win nwe(Gusto Lvl3b6)

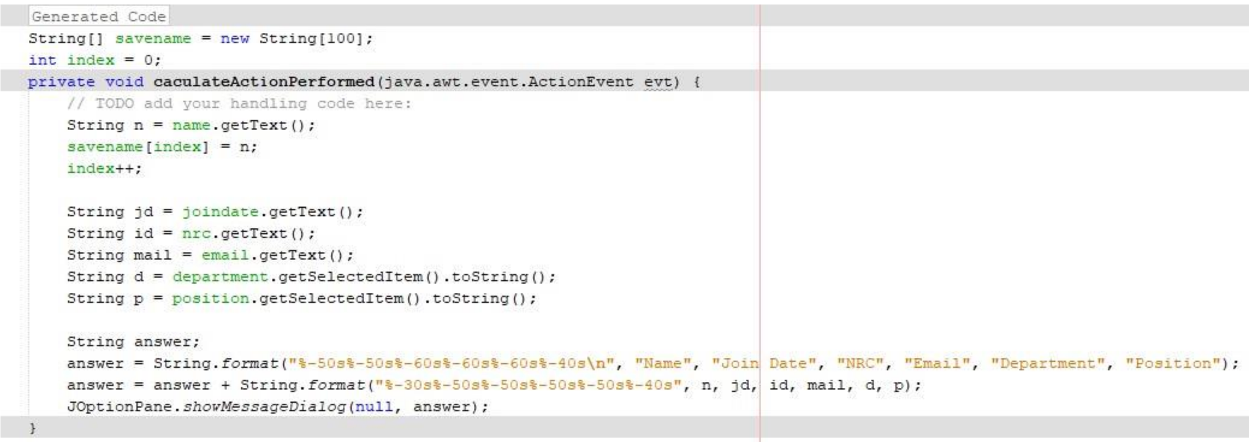
Design event driven application to meet defined requirement


Start
Request Name
Accept Name
Memorize Name
Request NRC
Accept NRC
Memorize NRC
Request Department
Accept Department
Memorize Department
Request Date
Accept Date
Memorize Date
Request Email Address
Accept Email Address
Memorize Email Address
Request Position
Accept Position
Memorize Position
Enter Num1 as calculate salary
Enter Num2 as Display Count
Num1
yes
manager basic salary 50000
If position= manager
no
supervisor basic salary 30000
If position= supervisor
office staff basic salary 25000
If position= office staff
cleaner basic staff 10000
If position= cleaner
take a leave
basic salary +attendance bonus 20000
basic salary only
without being late
basic salary +punctuality bonus 10000
Active Day in Office
Active Day*500 per day in this month
Allowance of per day 500+basic salary
Num2
If position== Manager
Manager count =count+1
If position== Supervisor
supervisor count =count+1
If position== Office Staff
cleaner count =count+1
If position== Cleaner
office staff count =count+1
Display Manager count=10
Display supervisor count=30
Display office staff count=350
Display cleaner count=10
Display Manager Basic Salary
Display Supervisor Basic Salary
Display Office Staff Basic Salary
Display Cleaner Basic Salary
End

P4

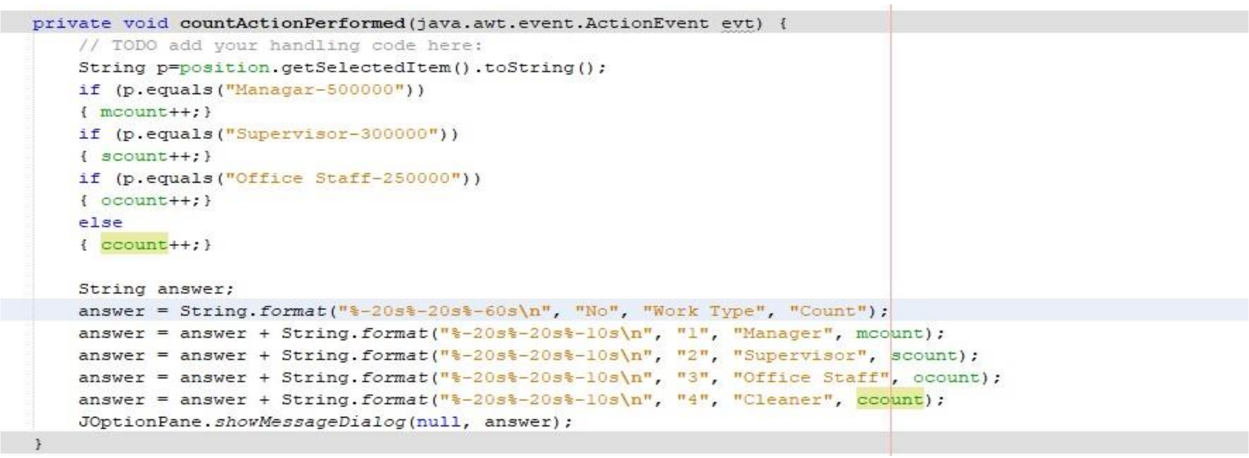
Implement a working event driven

application to meet defined requirements



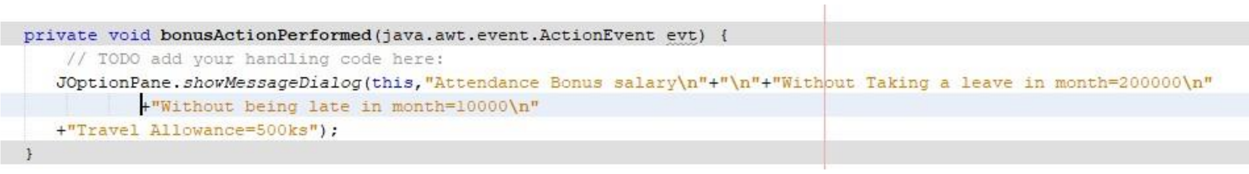
```
Generated Code
String[] savename = new String[100];
int index = 0;
private void caculateActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    String n = name.getText();
    savename[index] = n;
    index++;

    String jd = joindate.getText();
    String id = nrc.getText();
    String mail = email.getText();
    String d = department.getSelectedItem().toString();
    String p = position.getSelectedItem().toString();

    String answer;
    answer = String.format("%-50s%-50s%-60s%-60s%-60s%-40s\n", "Name", "Join Date", "NRC", "Email", "Department", "Position");
    answer = answer + String.format("%-30s%-50s%-50s%-50s%-50s%-40s", n, jd, id, mail, d, p);
    JOptionPane.showMessageDialog(null, answer);
}
```

For Calculate Salary BTN



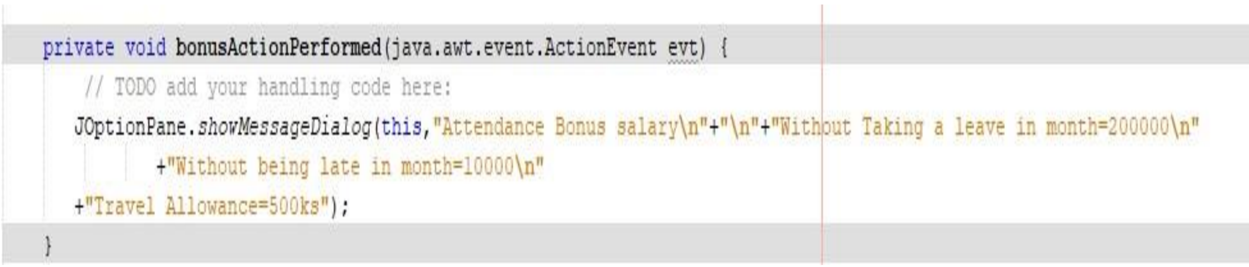
```
private void countActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    String p=position.getSelectedItem().toString();
    if (p.equals("Managar-500000"))
    { mcount++;}
    if (p.equals("Supervisor-300000"))
    { scount++;}
    if (p.equals("Office Staff-250000"))
    { ocount++;}
    else
    { ccount++;}

    String answer;
    answer = String.format("%-20s%-20s%-60s\n", "No", "Work Type", "Count");
    answer = answer + String.format("%-20s%-20s%-10s\n", "1", "Manager", mcount);
    answer = answer + String.format("%-20s%-20s%-10s\n", "2", "Supervisor", scount);
    answer = answer + String.format("%-20s%-20s%-10s\n", "3", "Office Staff", ocount);
    answer = answer + String.format("%-20s%-20s%-10s\n", "4", "Cleaner", ccount);
    JOptionPane.showMessageDialog(null, answer);
}
```

For Employee Count BTN



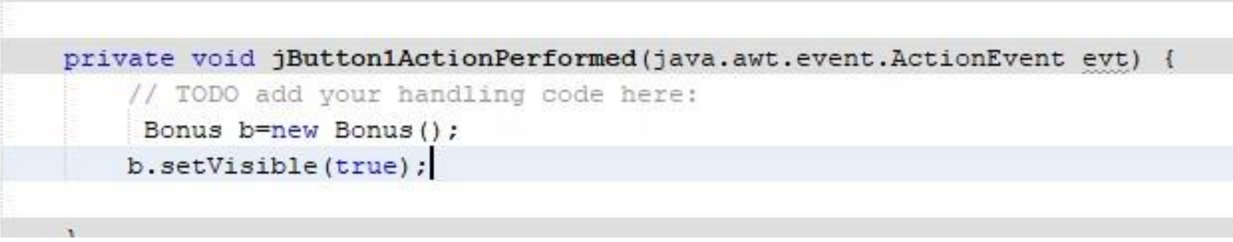
```
private void bonusActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
   JOptionPane.showMessageDialog(this,"Attendance Bonus salary\n"+"\n"+"Without Taking a leave in month=200000\n"
           +"Without being late in month=10000\n"
   +"Travel Allowance=500ks");
}
```

For Bonus Salary BTN



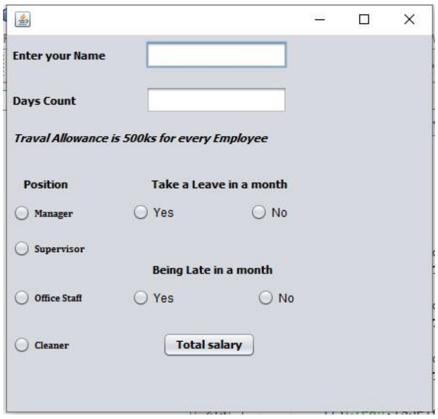
```
private void bonusActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
   JOptionPane.showMessageDialog(this,"Attendance Bonus salary\n"+"\n"+"Without Taking a leave in month=200000\n"
           +"Without being late in month=10000\n"
   +"Travel Allowance=500ks");
}
```

For calculate salary



```
private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
     Bonus b=new Bonus();
    b.setVisible(true);
```

Calculate salary Form



Enter your Name

Days Count

Traval Allowance is 500ks for every Employee

Position

○ Manager

○ Supervisor

○ Office Staff

○ Cleaner

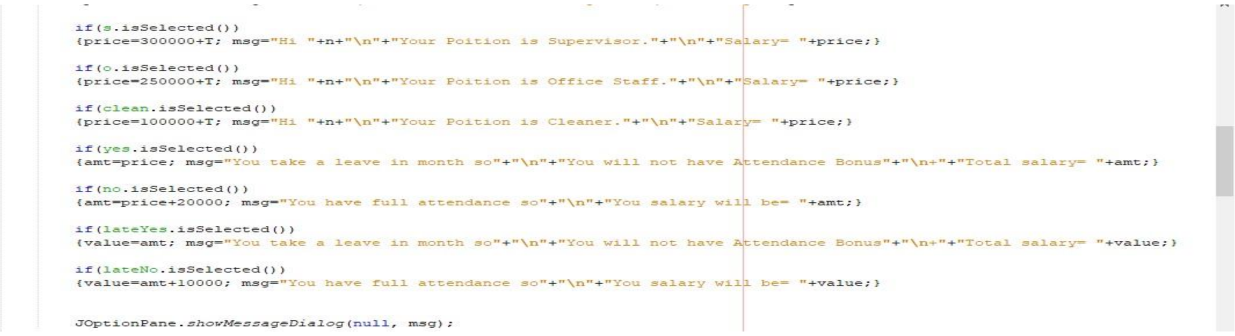
Take a Leave in a month

○ Yes ○ No

Being Late in a month

○ Yes ○ No

Calculate salary BTN

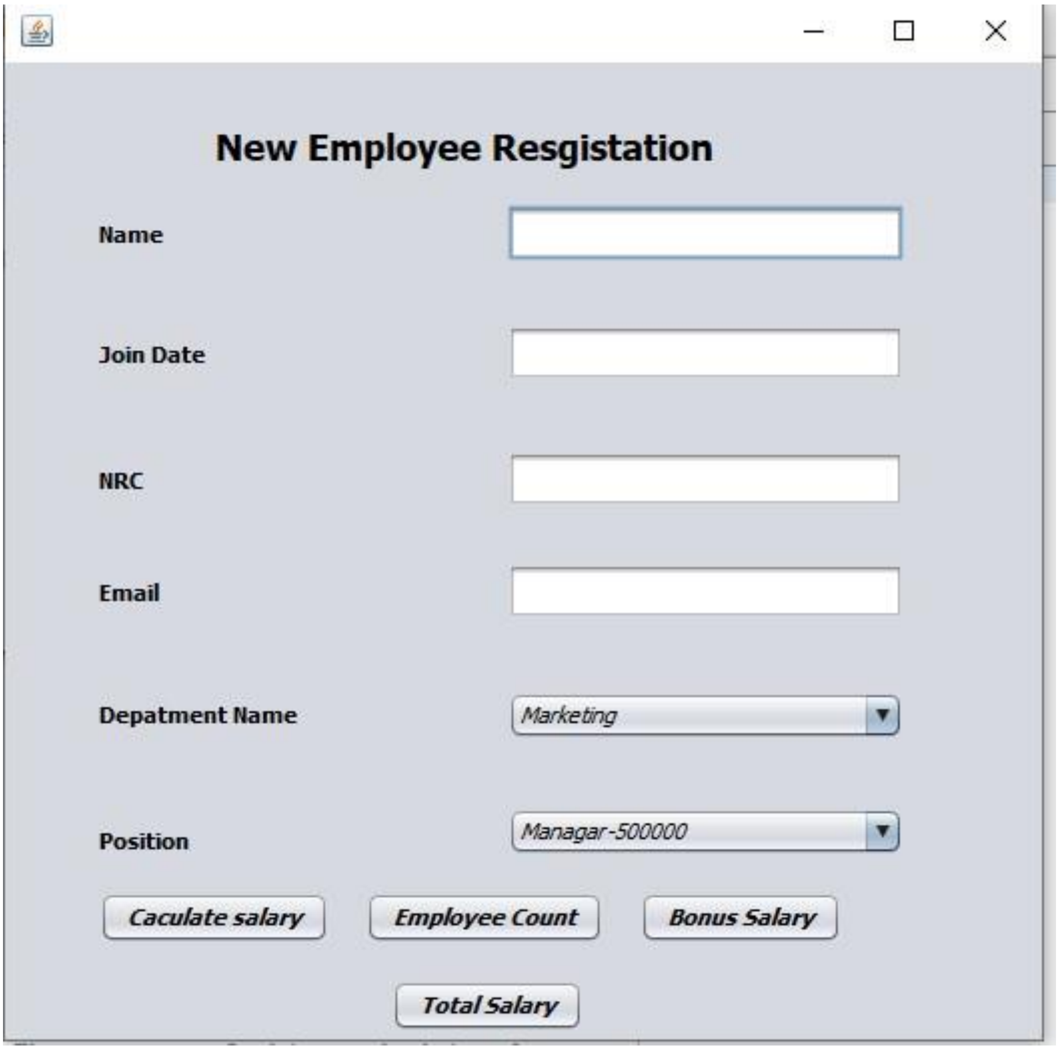


```
if(s.isSelected())
{price=300000+T; msg="Hi "+n+"\n"+"Your Poition is Supervisor."+"\n"+"Salary= "+price;}

if(o.isSelected())
{price=250000+T; msg="Hi "+n+"\n"+"Your Poition is Office Staff."+"\n"+"Salary= "+price;}

if(clean.isSelected())
{price=100000+T; msg="Hi "+n+"\n"+"Your Poition is Cleaner."+"\n"+"Salary= "+price;}

if(yes.isSelected())
{amt=price; msg="You take a leave in month so"+"\n"+"You will not have Attendance Bonus"+"\n+"+"Total salary= "+amt;}

if(no.isSelected())
{amt=price+20000; msg="You have full attendance so"+"\n"+"You salary will be= "+amt;}

if(lateYes.isSelected())
{value=amt; msg="You take a leave in month so"+"\n"+"You will not have Attendance Bonus"+"\n+"+"Total salary= "+value;}

if(lateNo.isSelected())
{value=amt+10000; msg="You have full attendance so"+"\n"+"You salary will be= "+value;}


JOptionPane.showMessageDialog(null, msg);
```

M2

Give reasons for the tools and techniques used in the production of an event driven application

This point is related to P4.



New Employee Resgistation

Name	
Join Date	
NRC	
Email	
Depatment Name	Marketing ▼
Position	Managar-500000 ▼

New employee registration form

In this form, there are 7 labels tool in total, 4 text field tool, 2 combo boxes and 4 buttons. I used the main title as label tool and edit a text into "new employee registration". I used this tool because I want the user to knows this is title and they can't not fix or write the title while they are using.

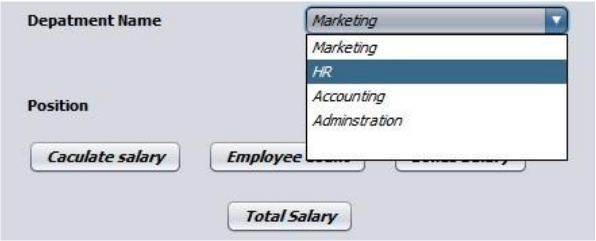
The “name” label text is the title for the text field beside it. User can see the title and they will know what to put in the text field what to put by looking at the label but user can only put their name which is string character in event driven programming so they can not put numbers or float or anything else. That is why I used this program easily. For example; saw win new or Sam or Mary.

The “Join Date” label text is the title for the text field beside it which is same as the “Name” label that I explain above. The difference of this label is that user need to put the date they join the company so they can only put numbers in the text field. I made the text field to accept only numbers integers so user can easily type in the numbers not other words like string or float. For example; 12/34/5678.

The “NRC” label text is the title for the text field beside it which is the same as labels from above but I made the program to accept both string character and numbers integer because NRC is same as ID and in our country, ID contains both numbers and alphabets so user can only put string character and number integer but not float or Boolean. For example; 12/RGN(N)1213465.

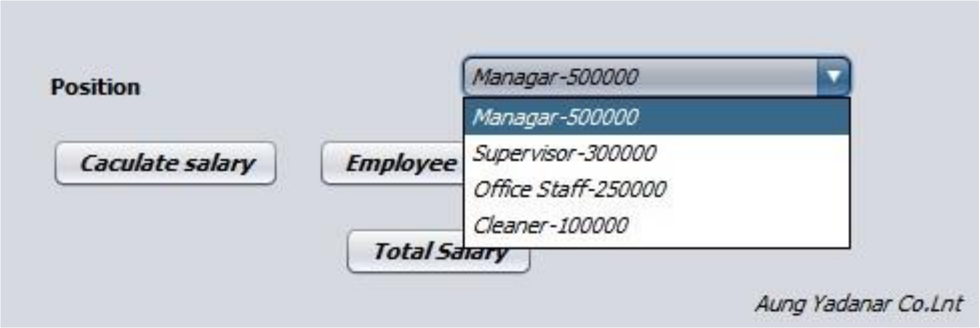
The “Email” label text is the title for the text field beside which is same as NRC because some email has both letters and numbers so I made the program to accept both string character and number integer but not float or double so user can use the program easily. For example; sawwinnwe123@gmail.com .

The “Department Name” label text is the title for the combo box beside it. It is different from others above. I used a combo box tools because there are only 4 department in this company. There are marketing department, HR department, accounting department and administration department for different position of employee. I used it because this is easier than text field above. User only need to choose which department they will be working. They do not need to write down the department name. The type of letters in the combo box I used as string character. So, the program is easier for user to use. For example;



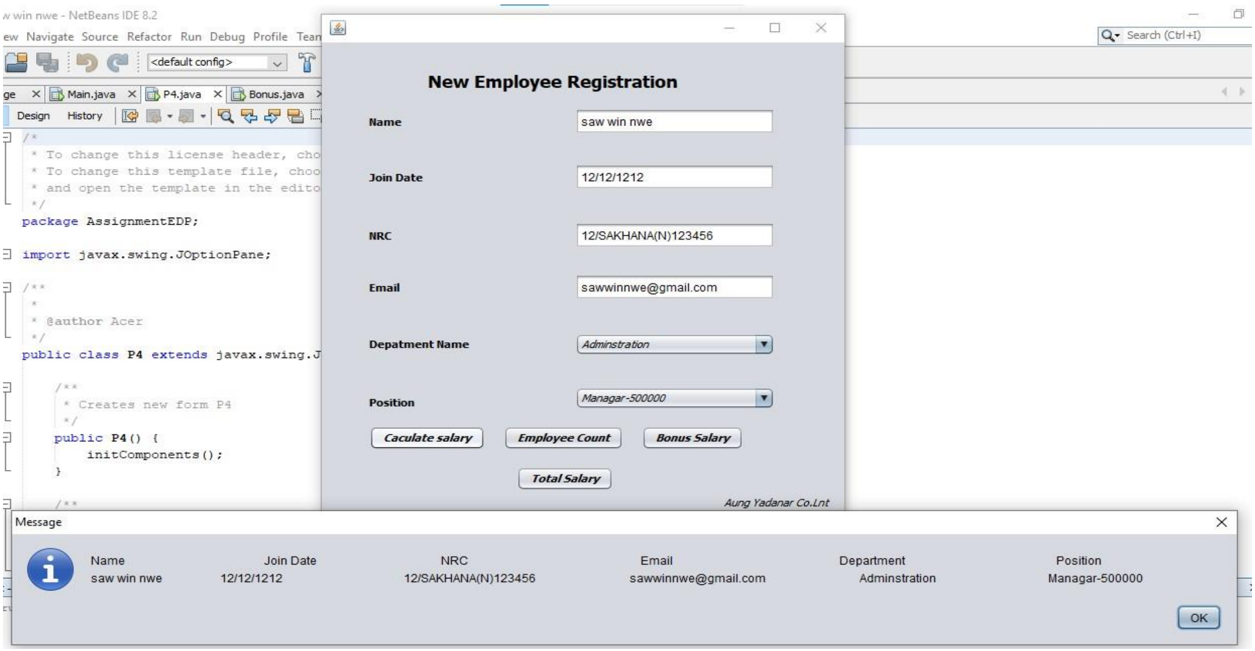
Department Combo Box tools

The “Position” label is used for combo box beside it which is same as department combo box. User can choose which position they will be working without typing down. There are four positions, manager, supervisor, office staff and cleaner. I used this as combo box because same reason as department, user can see which position they can work in which department so they can choose their career. I even put the basic salary beside the position. Same as department, I used string character for the combo box for user to use easily. For example;



Position

The “Calculate Salary” button is a button which I can write program behind it. Button is not similar to labels or text field or combo box. I used this button because I want to use program to auto calculate or show the letters and number that user put it in. I program the button to show details about things they wrote and things they chose. For example;



w win nwe - NetBeans IDE 8.2
ew Navigate Source Refactor Run Debug Profile Tean
<default config>
ge
Main.java
P4.java
Bonus.java
Design
History

```
/*
 * To change this license header, cho
 * To change this template file, choo
 * and open the template in the edito
 */
package AssignmentEDP;

import javax.swing.JOptionPane;

/**
 *
 * @author Acer
 */
public class P4 extends javax.swing.J

    /**
     * Creates new form P4
     */
    public P4() {
        initComponents();
    }

    /**
```

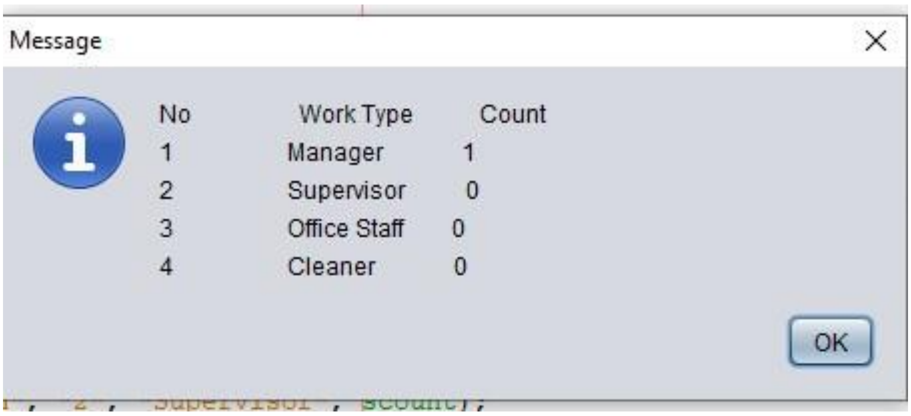
New Employee Registration

Name	saw win nwe
Join Date	12/12/1212
NRC	12/SAKHANA(N)123456
Email	sawwinnwe@gmail.com
Depatment Name	Adminstration
Position	Managar-500000

Message

```
Name            Join Date      NRC                    Email                  Department       Position
saw win nwe     12/12/1212     12/SAKHANA(N)123456    sawwinnwe@gmail.com      Adminstration  Managar-500000
```

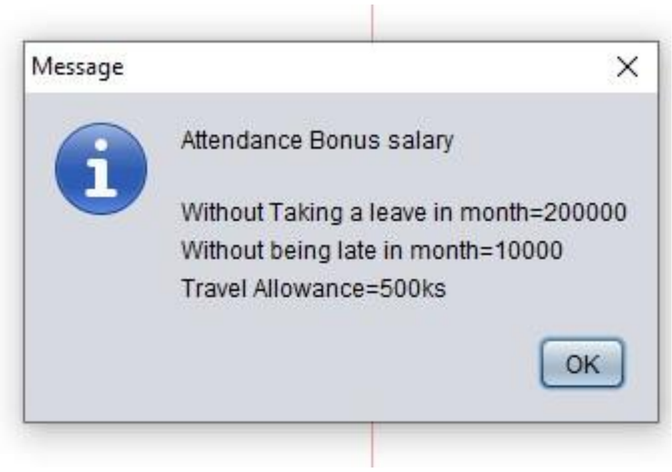
The "employee count" button is same as calculate salary button but the program is not the same. In this button, the program shows every new employee that is register through this program. There are four type of position and the program shows how many employees count in every position in the company. For example:



```
No          Work Type       Count
1           Manager          1
2           Supervisor       0
3           Office Staff     0
4           Cleaner          0
```

Employee Count

The “Bonus Salary” button is similar to buttons above but the program only shows all kind of bonus salary that the company give. The program shows, the salary if you don’t take a leave or not being late to work every da but there is no calculation in the program. I put only a bonus salary note in the program so user can check how much more salary they will get if they follow the company’s rules. For example;



```
Attendance Bonus salary

Without Taking a leave in month=200000
Without being late in month=10000
Travel Allowance=500ks
```

Bonus salary

The “Total salary” button is also same as button above but the program is all about calculation and this button leads to another form. I connects the two forms with coding in the program and if user pressed this button, the program will open another form which I made as bonus salary calculation form. I used this program as a calculator so user can easily calculate how much their salary will be including the bonus salary. So, there are 6 labels and 2 text fields.

The first label is “Name” label which is a title for the text field beside it like labels from above.

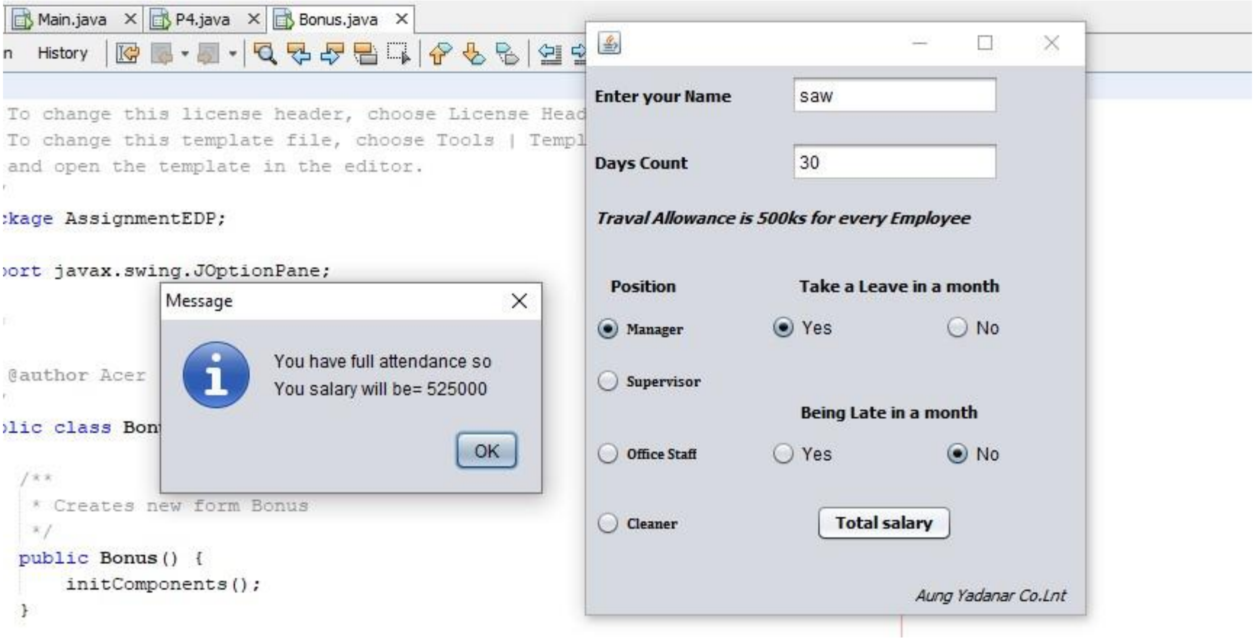
Second label “Day’s count” is a title for text field beside it but that text field is important because the program will use the data from text field for calculation. User have to put days they attend work so the program can calculate their attendance bonus salary. Every employee gets 500ks as travel allowance each day so the program will multiply travel allowance with days, they attend which will get from text field beside the “Day’s count” label.

Third label “Travel allowance 500ks per day” is just a simple label tool. I used that tool in my program because I want user to know that this program calculation contains travel allowance.

Fourth label “Position” label is the title for radio button from below. There are 4 positions in this company, manager, supervisor, office staff and cleaner. I used the radio button tools because I want user to choose their position so the program can calculate different basic salary including the travel allowance and other attendance bonus. I also put the radio button group so user can choose only one radio button.

The fifth label “Take a leave in month” is the title for the 2-radio button below. There are “yes” and “no” buttons and same as radio buttons from above, I also put radio button so user can choose only one button. If user choose “yes” which mean user take a leave a month so they will not get the attendance bonus in this month which is 20000mmk. If they choose “no”, the program will calculate their both basic salary, travel allowance depending on days they attend and their bonus salary 20000mmk.

Last but not least, the sixth label "Being late in a month" is the title for 2 radio buttons below which is same as fifth label and radio buttons. There are "yes" and "no" which user will get 10000mmk as bonus salary if they don't late to work every day and the program will calculate their bonus salary, travel allowance and their basic salary. All the example shown below;



```
To change this license header, choose License Head
To change this template file, choose Tools | Templ
and open the template in the editor.

:kage AssignmentEDP;

oort javax.swing.JOptionPane;

@author Acer

olic class Bon

  /**
   * Creates new form Bonus
   */
  public Bonus() {
      initComponents();
  }
```

Message

You have full attendance so
You salary will be= 525000

Enter your Name: saw

Days Count: 30

Traval Allowance is 500ks for every Employee

Position: ● Manager ○ Supervisor ○ Office Staff ○ Cleaner

Take a Leave in a month: ● Yes ○ No

Being Late in a month: ○ Yes ● No

Bonus salary

P5 Test an Event driven Application

Text plan for name text box

Test description	Test: name text box	
Test number	1.0	**Performed by: Saw Win Nwe**

Number	Step	Data	Data type	Actual result	Problem Number
1	Input value into name textbox	Saw Win Nwe	String	No error	Accept and ok
2	Input value into name textbox	Sam	String	No error	Accept and ok
3	Input value into name textbox	-5	Extreme	Validation stopped data entry	None taken
4	Input value into name textbox	sawwinnwe@gmail.com	string	Validation stopped data entry	None taken
5	Input value into name textbox	10.5	float	error	Not accept
6	Input value into name	1.2.1998	Erroneous	error	Not accept

	textbox				
				validation checking	

Test plan for join date text box

Test description	Test: Join date test box				
Test number	2.0			**Performed by: Saw Win Nwe**	
Number	**Step**	**Data**	**Data type**	**Actual result**	**Problem Number**
1	Input value into date textbox	25.07.2001	normal	No error	Accept and ok
2	Input value into date textbox	1998.12.27	normal	No error	Accept and ok
3	Input value into date textbox	Saw Win Nwe	string	Validation stopped data entry	None taken
4	Input value into date textbox	sawwinnwe@gmail.com	string	Validation stopped data entry	None taken

5	Input value into date textbox	10/5	extreme	error	Not accept
6	Input value into date textbox	09/@gmail.SWN	Erroneous	Program terminated due to incomplete validation checking	Not accept

Test plan for email text box

Test description		Test: Email text box			
Test number		4.0		**Performed by: Saw Win Nwe**	
Number	**Step**	**Data**	**Data type**	**Actual result**	**Problem Number**
1	Input value into email textbox	sawwinnwe@gmail.com	normal	No error	Accept and ok
2	Input value into email textbox	Sawwinnwe123@gmail.com	normal	No error	Accept and ok
3	Input value into email textbox	123@gmail	string	Validation stopped data entry	None taken

4	Input value into email textbox	Saw.com	string	Validation stopped data entry	None taken
5	Input value into email textbox	123	extreme	Validation stopped data entry	None taken
6	Input value into email textbox	sawwinnwe	Erroneous	error	Not accept
				validation checking	

Test plan for department combo box

Test description		Test: department combo box			
Test number		5.0		**Performed by: Saw Win Nwe**	
Number	**Step**	**Data**	**Data type**	**Actual result**	**Problem Number**

1	Input value into department combo box	Marketing	string	No error	Accept and ok
2	Input value into department combo box	HR	string	No error	Accept and ok
3	Input value into department combo box	Accounting	string	No error	None taken
4	Input value into department combo box	Administration	string	No error	None taken
5	Input value into department combo box	Fineness	string	error	Not accept
				validation checking	

Test plan for NRC text box

Test description	Test: NRC test box	
Test number	3.0	**Performed by: Saw Win Nwe**

Number	Step	Data	Data type	Actual result	Problem Number
1	Input value into NRC textbox	12/SAKHANA (N)123456	normal	No error	Accept and ok
2	Input value into NRC textbox	12/SAKHANA (N)654321	normal	No error	Accept and ok
3	Input value into NRC textbox	12/saw win nwe	string	Validation stopped data entry	None taken
4	Input value into NRC textbox	sawwinnwe@gmail.com	string	Validation stopped data entry	None taken
5	Input value into NRC textbox	(N)123	extreme	error	None taken
6	Input value into NRC textbox	SAKHANA12/(N)	Erroneous	Program terminated due to incomplete validation checking	Not accept

Test description	Test: Position combo box

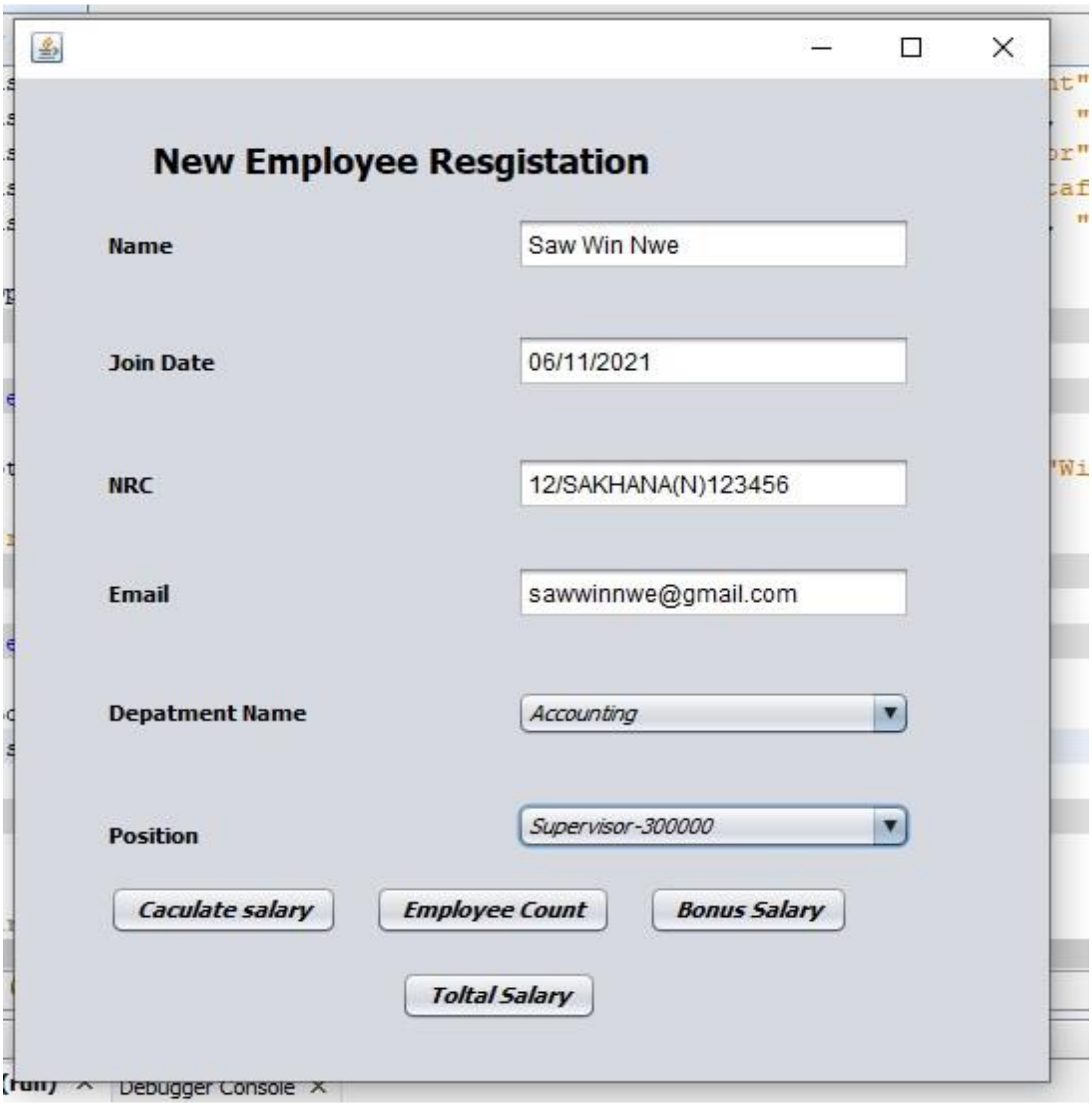
Test number		6.0		**Performed by: Saw Win Nwe**	
Number	**Step**	**Data**	**Data type**	**Actual result**	**Problem Number**
1	Input value into position combo box	Manager	string	No error	Accept and ok
2	Input value into position combo box	Supervisor	string	No error	Accept and ok
3	Input value into position combo box	Office staff	string	Validation stopped data entry	None taken
4	Input value into position combo box	Cleaner	string	Validation stopped data entry	None taken
5	Input value into position combo box	Database	string	error	Not accept

Test plan for Position combo box

P6

Create onscreen help to assist the users of a computer program

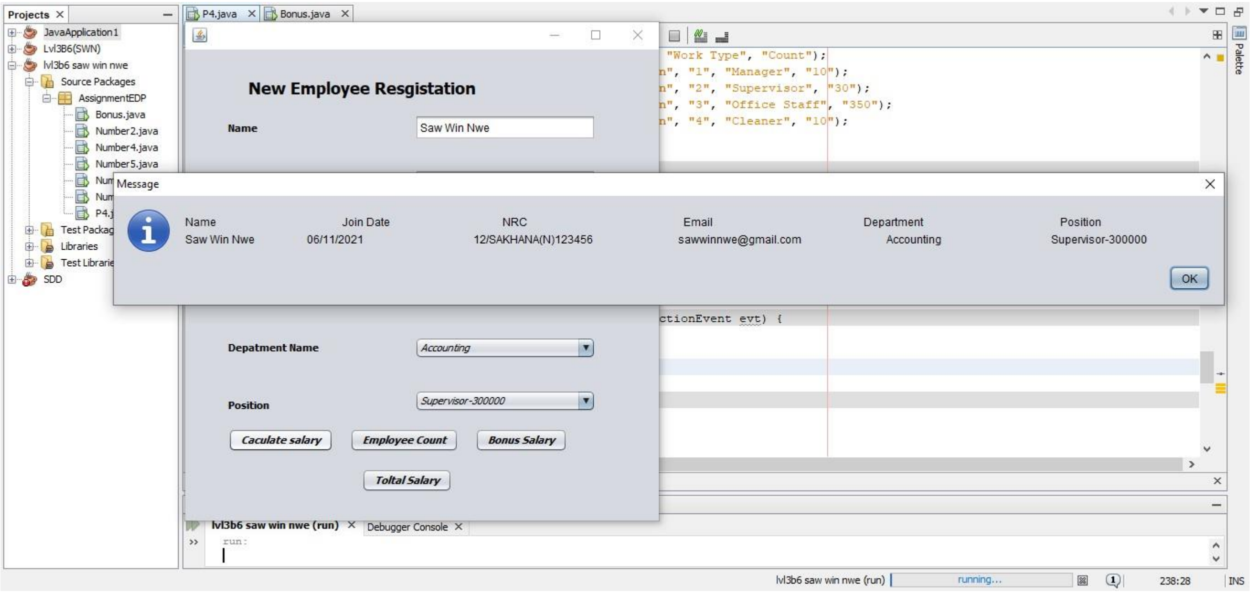
This p6 is related to the p4.



New Employee Resgistation

Name	Saw Win Nwe
Join Date	06/11/2021
NRC	12/SAKHANA(N)123456
Email	sawwinnwe@gmail.com
Depatment Name	Accounting
Position	Supervisor-300000

This is new employee registration form. New employee has to fill this form by adding their name, join date, NRC, email and which department the employee will be working and which position they will be working. Calculate salary button show all the information of the new employee just register. For example, look at the photo below.



New Employee Resgistation

Name: Saw Win Nwe

Depatment Name: Accounting

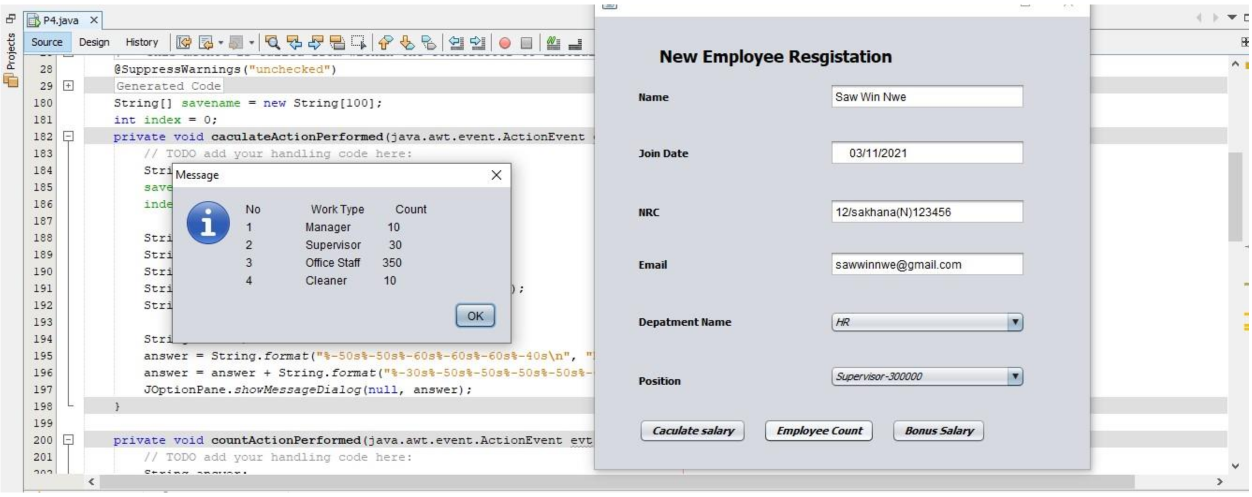
Position: Supervisor-300000

Message

```
Name            Join Date      NRC                    Email                   Department      Position
Saw Win Nwe     06/11/2021     12/SAKHANA(N)123456    sawwinnwe@gmail.com     Accounting      Supervisor-300000
```

```
"Work Type", "Count");
n", "1", "Manager", "10");
n", "2", "Supervisor", "30");
n", "3", "Office Staff", "350");
n", "4", "Cleaner", "10");
```

After the registration form, they can take a look at the employee count. In this employee count button, there are all the employee type and basic salary list. There are 4 types of employees in this company. Manager, supervisor, office staff and cleaner. Manager basic salary is 500000, supervisor basic salary is 300000, office staff is 250000 and cleaner basic salary is 100000. Example shown below,



```
    @SuppressWarnings("unchecked")
    Generated Code
    String[] savename = new String[100];
    int index = 0;
    private void caculateActionPerformed(java.awt.event.ActionEvent
        // TODO add your handling code here:
        answer = String.format("%-50s%-50s%-60s%-60s%-60s%-40s\n", "
        answer = answer + String.format("%-30s%-50s%-50s%-50s%-50s%-
        JOptionPane.showMessageDialog(null, answer);
    }

    private void countActionPerformed(java.awt.event.ActionEvent evt
        // TODO add your handling code here:
```

Message

```
No      Work Type       Count
1       Manager         10
2       Supervisor      30
3       Office Staff    350
4       Cleaner         10
```

New Employee Resgistation

Name: Saw Win Nwe

Join Date: 03/11/2021

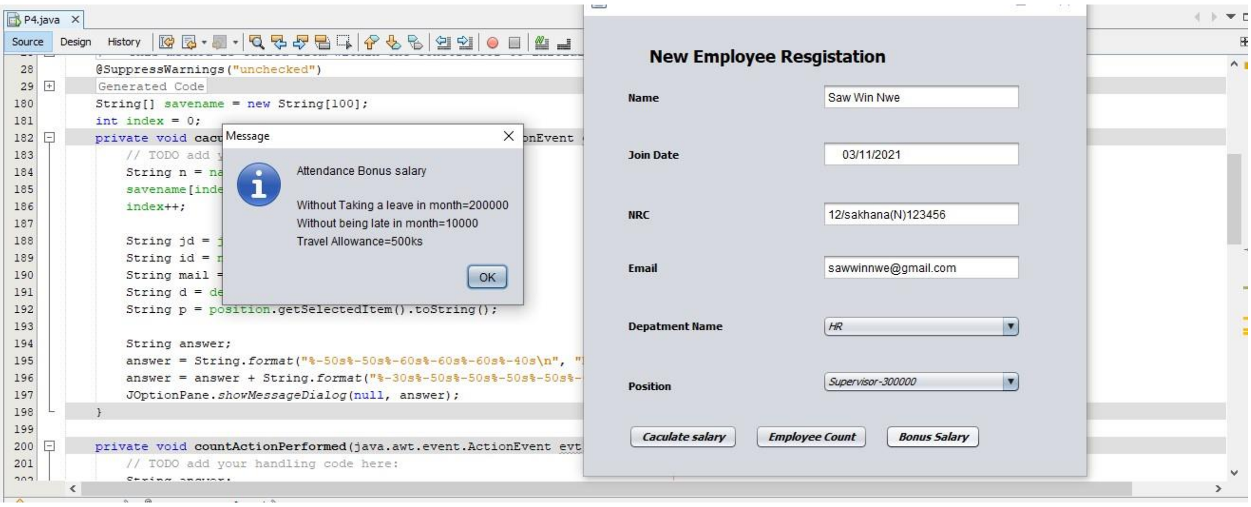
NRC: 12/sakhana(N)123456

Email: sawwinnwe@gmail.com

Depatment Name: HR

Position: Supervisor-300000

In Employee Count, they can check about the bonus salary in this company. If employee didn't take a leave within a month, they get 20000bonus extra salary. If employee didn't late every day, they get 10000bonus extra salary. If they both don't take a leave or late within a month, they get 30000bonus extra salary and without being late or taking a leave, every employee get travel allowance 500binus extra salary every day. Example shown below,



```
@SuppressWarnings("unchecked")
Generated Code
String[] savename = new String[100];
int index = 0;
private void cacu                                    onEvent
    // TODO add y
    String n = na
    savename[inde
    index++;

    String jd = j
    String id = r
    String mail =
    String d = de
    String p = position.getSelectedItem().toString();

    String answer;
    answer = String.format("%-50s%-50s%-60s%-60s%-60s%-40s\n", "
    answer = answer + String.format("%-30s%-50s%-50s%-50s%-50s%-
    JOptionPane.showMessageDialog(null, answer);
}

private void countActionPerformed(java.awt.event.ActionEvent evt
    // TODO add your handling code here:
```

Message

Attendance Bonus salary

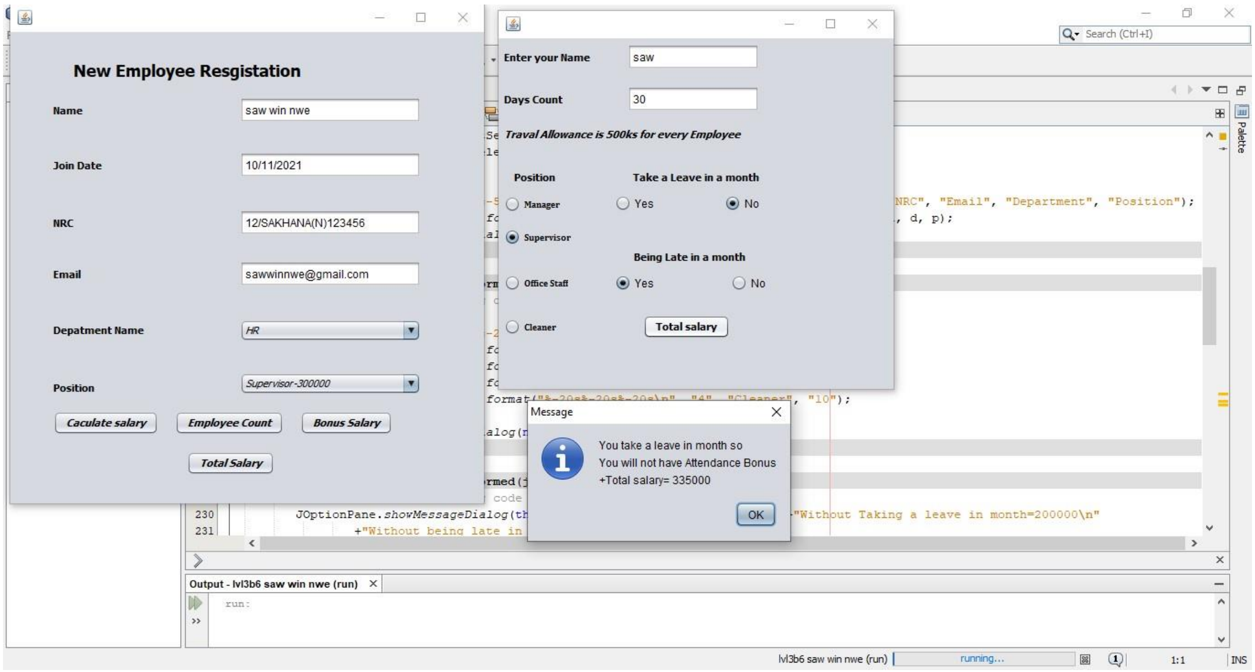
Without Taking a leave in month=200000
Without being late in month=10000
Travel Allowance=500ks

OK

New Employee Resgistation

Name	Saw Win Nwe
Join Date	03/11/2021
NRC	12/sakhana(N)123456
Email	sawwinnwe@gmail.com
Depatment Name	HR
Position	Supervisor-300000

Last but not Last, Total salary is where new employee can see their total salary which is their position + Attendance bonus salary. The program asks to choose the position and we also ask if they are being late or taking a leave in this month, we calculate the total salary without attendance bonus and if not, we calculate any option they choose on radio box and show them their total salary. Example show below,



New Employee Resgistation

Name: saw win nwe

Join Date: 10/11/2021

NRC: 12/SAKHANA(N)123456

Email: sawwinnwe@gmail.com

Depatment Name: HR

Position: Supervisor-300000

Enter your Name: saw

Days Count: 30

Traval Allowance is 500ks for every Employee

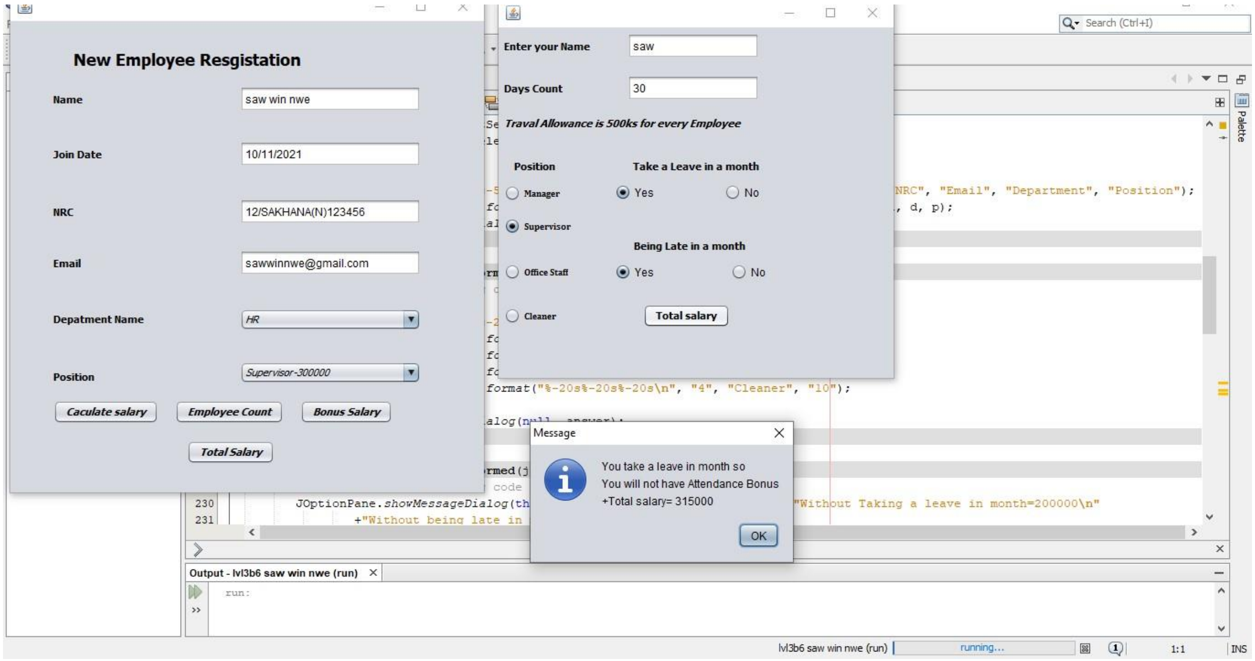
Position: ○ Manager ● Supervisor ○ Office Staff ○ Cleaner

Take a Leave in a month: ○ Yes ● No

Being Late in a month: ● Yes ○ No

Message

You take a leave in month so
You will not have Attendance Bonus
+Total salary= 335000



New Employee Resgistation

Name: saw win nwe

Join Date: 10/11/2021

NRC: 12/SAKHANA(N)123456

Email: sawwinnwe@gmail.com

Depatment Name: HR

Position: Supervisor-300000

Enter your Name: saw

Days Count: 30

Traval Allowance is 500ks for every Employee

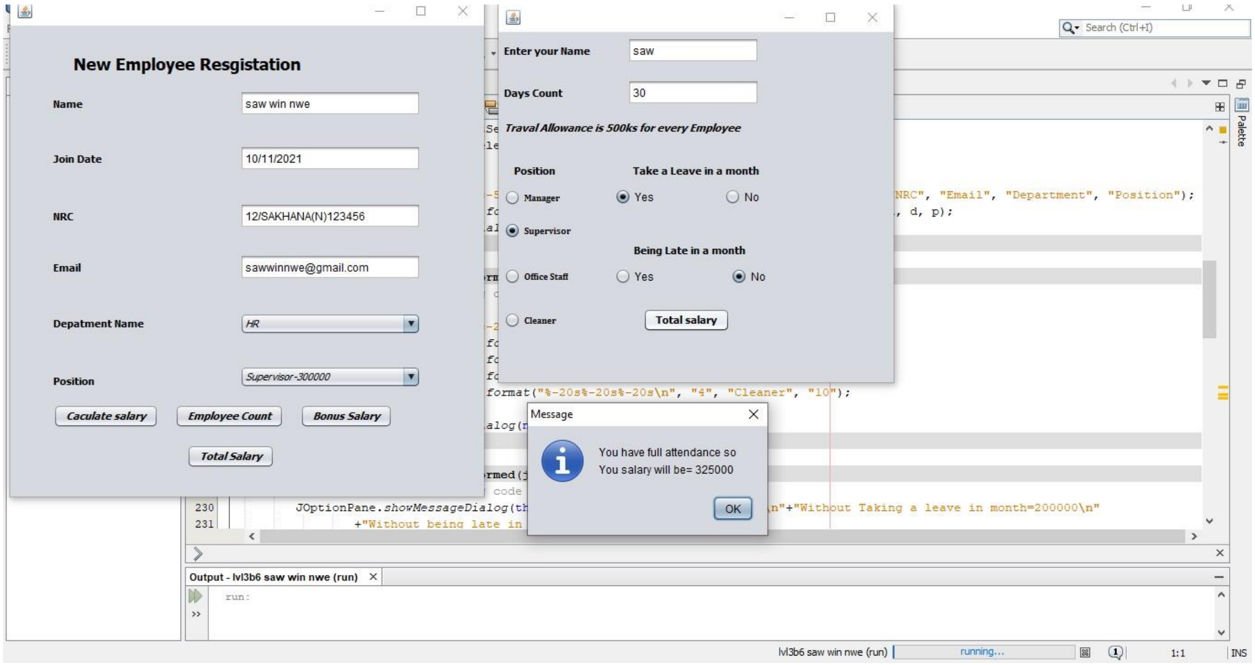
Position: ○ Manager ● Supervisor ○ Office Staff ○ Cleaner

Take a Leave in a month: ● Yes ○ No

Being Late in a month: ● Yes ○ No

Message

You take a leave in month so
You will not have Attendance Bonus
+Total salary= 315000



New Employee Resgistation

Name: saw win nwe

Join Date: 10/11/2021

NRC: 12/SAKHANA(N)123456

Email: sawwinnwe@gmail.com

Depatment Name: HR

Position: Supervisor-300000

Enter your Name: saw

Days Count: 30

Traval Allowance is 500ks for every Employee

Position: ○ Manager ● Supervisor ○ Office Staff ○ Cleaner

Take a Leave in a month: ● Yes ○ No

Being Late in a month: ○ Yes ● No

Message

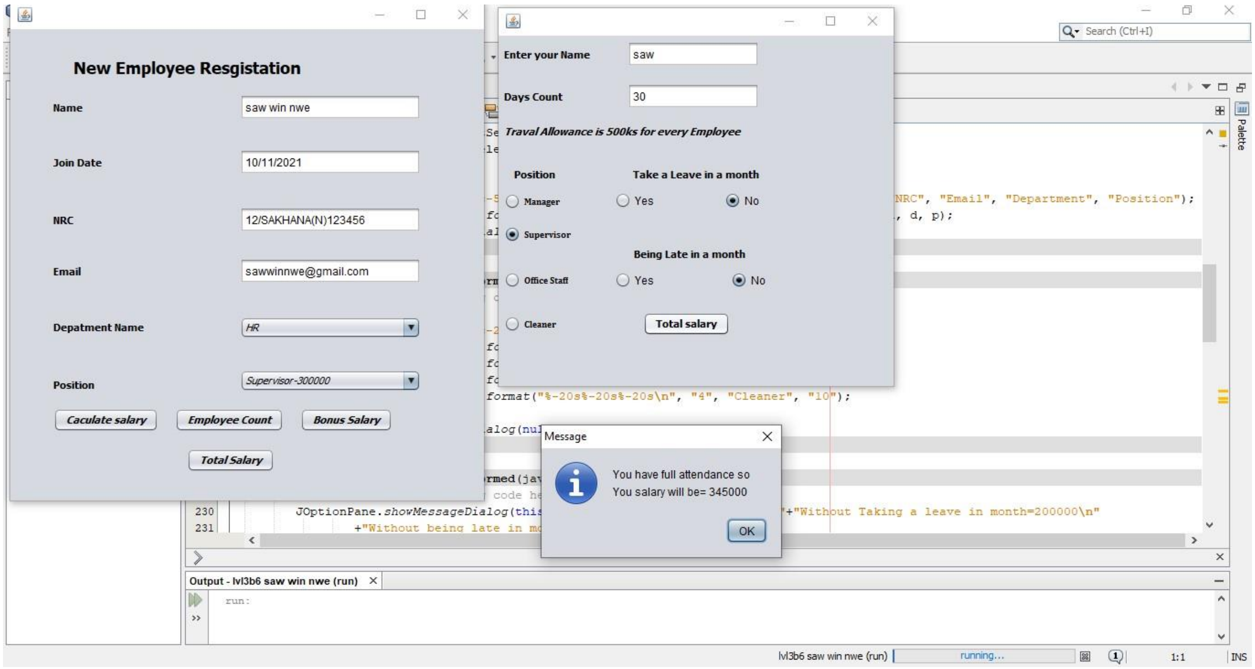
You have full attendance so
You salary will be= 325000

```
NRC", "Email", "Department", "Position");
, d, p);
format("%-20s%-20s%-20s\n", "4", "Cleaner", "10");
JOptionPane.showMessageDialog(th
    +"Without being late in
n"+"Without Taking a leave in month=200000\n"
```

Output - lvl3b6 saw win nwe (run)

```
run:
```

lvl3b6 saw win nwe (run) running...



New Employee Resgistation

Name: saw win nwe

Join Date: 10/11/2021

NRC: 12/SAKHANA(N)123456

Email: sawwinnwe@gmail.com

Depatment Name: HR

Position: Supervisor-300000

Enter your Name: saw

Days Count: 30

Traval Allowance is 500ks for every Employee

Position: ○ Manager ● Supervisor ○ Office Staff ○ Cleaner

Take a Leave in a month: ○ Yes ● No

Being Late in a month: ○ Yes ● No

Message

You have full attendance so
You salary will be= 345000

```
NRC", "Email", "Department", "Position");
, d, p);
format("%-20s%-20s%-20s\n", "4", "Cleaner", "10");
JOptionPane.showMessageDialog(this
    +"Without being late in mo
"+"Without Taking a leave in month=200000\n"
```

Output - lvl3b6 saw win nwe (run)

```
run:
```

lvl3b6 saw win nwe (run) running...

This is all about new employee registration that I wrote program about this form for this Green Land Organic Company.

Analyze actual test results against expected results to identify discrepancies

In p5, user can input only strings and integers which the program accept and the program will show error if user put wrong data. I will show u exception handling and regular expression as example in java.

Exception handling

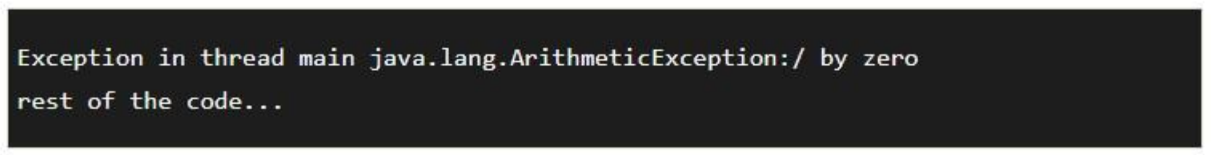
Java exception handling is one of the powerful mechanisms for handling runtime errors so that your application can run successfully. try-catch is the easiest way to handle exceptions. Put the code to be executed in a try block, and all Java exceptions thrown by the code will be caught by one or more catch blocks. This method catches various Java exceptions thrown. This is the simplest mechanism for handling exceptions.

This tutorial introduces Java exceptions, their types, and the difference between confirmed and unconfirmed exceptions.

Exception handling is a mechanism for handling runtime errors, such as ClassNotFoundException, IOException, SQLException, and RemoteException.

Let's look at an example of Java exception handling using try-catch statements to handle exceptions.

Output



```
Exception in thread main java.lang.ArithmeticException:/ by zero
rest of the code...
```

Input

```
public class JavaExceptionExample{
public static void main(String args[]){
try{
//code that may raise exception
int data=100/0;
}catch(ArithmeticException e){System.out.println(e);}
//rest code of the program
System.out.println("rest of the code...");
}
}
```

In p5, there is text box for name, for program to accept user name, program needs to accept this kind of letter of code. For the name text box

```
\b([A-ZÀ-ÿ][-,a-z. ']+[ ]*)+
```

```
AND(
$User.ProfileId <> '00e30000001jDdz',
OR(
LEN(FirstName ) <=1,
MID(FirstName ,2,1) = " ",
NOT(
   REGEX(
         FirstName,
         '([A-Z][a-z]*)([\\s\\\'-][A-Z][a-z]*)*'
        )
     )
  )
)
```

User profiles are designed to perform all tasks required by system administrators. The Len & Mid bit is used to prevent the insertion of the first letter or "S J".

Regular expressions

Java Regex or regular expression is an API used to define patterns for finding or manipulating strings. It is widely used to set string restrictions, such as passwords and email verification. After learning the Java Regex tutorial, you can use the Java Regex Tester tool to test regular expressions. The Java Regex API provides an interface and three classes in the java util regex package. Regular expressions are a set of characters that form a search pattern. When searching for data in text, you can use this search template to illustrate what you are looking for. Regular expressions can be single characters or more complex patterns.

```
import java.util.regex.Pattern;



public class Main {   public static
void main(String[] args) {
   Pattern           pattern           =           Pattern.compile("w3schools",
Pattern.CASE_INSENSITIVE);
   Matcher   matcher   =   pattern.matcher("Visit
W3Schools!");            boolean   matchFound   =
matcher.find();    if(matchFound) {
     System.out.println("Match found");

   } else {

     System.out.println("Match not found");

   }

  }

}

// Outputs Match found
```

First, use the Pattern.compile() method to generate the pattern. The first parameter specifies the pattern to be searched, and the second parameter has a flag to indicate that the search is not case sensitive. The second parameter is optional.

The matcher() method is used to find patterns in strings. Returns a matcher object containing information about the search performed.

If the pattern is found in the string, the find() method returns true, otherwise

[RegularExpression(@"^(?=.*[a-
z])|(?=.*[A-

it returns false.

This is my code for the regular expression:

Z])|(?=.*\d)|(?=.*[^a-zA-Z\d])$", ErrorMessage = "Password should have atleast one

lowercase | atleast one uppercase, should have atleast one number, should have atleast one

special character")]

For join date text box

/^\d{4}-(0[1-9]|1[0-2])-(0[1-9]|[12][0-9]|3[01])$/

This code works for most dates but does exclude invalid days of the month like 2021-02-29 (2021 is not a leap year) or 2021-04-31 (April has only 30 days). These checks must be performed using the tools in your specific programming language of choice.

<u>For NRC text box</u>

```
^(?!\\d+$)\\w{8,20}$
public static void main(String[] args) {
    Pattern pattern = Pattern.compile("^(?!\\d+$)\\w{8,20}$");
    Matcher matcher = pattern.matcher("Tryurcode4u");
    System.out.println("Input String matches regex -
"+matcher.matches()); }
```

identifier = **letter** (letter | digit)* real-numeral = digit digit* . digit digit* E (epsilon | + | -) digit digit*

<u>For email text box</u>

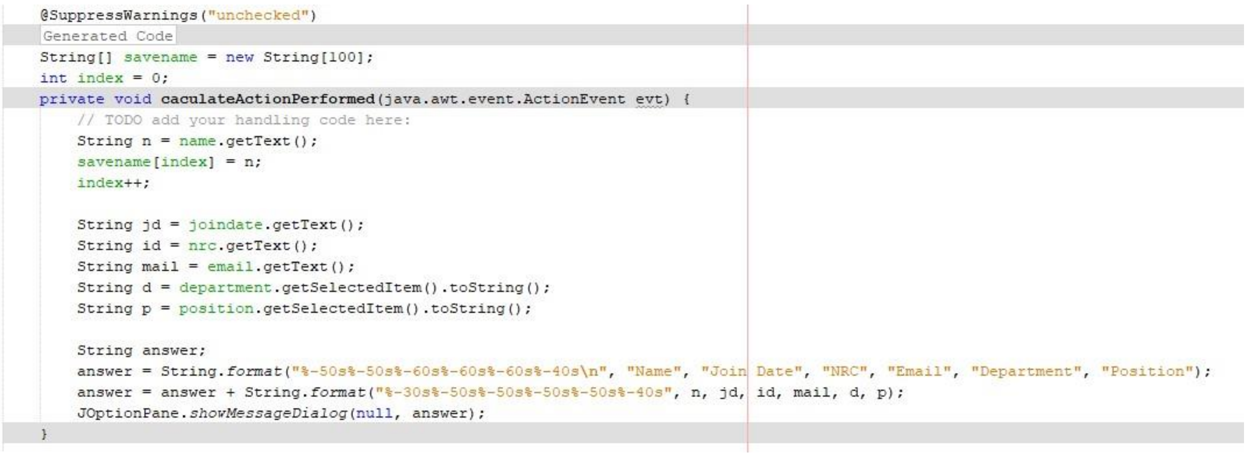
[a-zA-Z0-9 + _.-] matches letters (in both cases), numbers, and the letters "+", "_" and ".". There is a "-" in front of the @ symbol. + Represents one or more iterations of the above character

<u>M4</u>

<u>Create technical documentation for the support and maintenance of a computer program</u>

This is related to p4.

In this section, I will talk about how my program works and how anyone can fix it or put new coding.



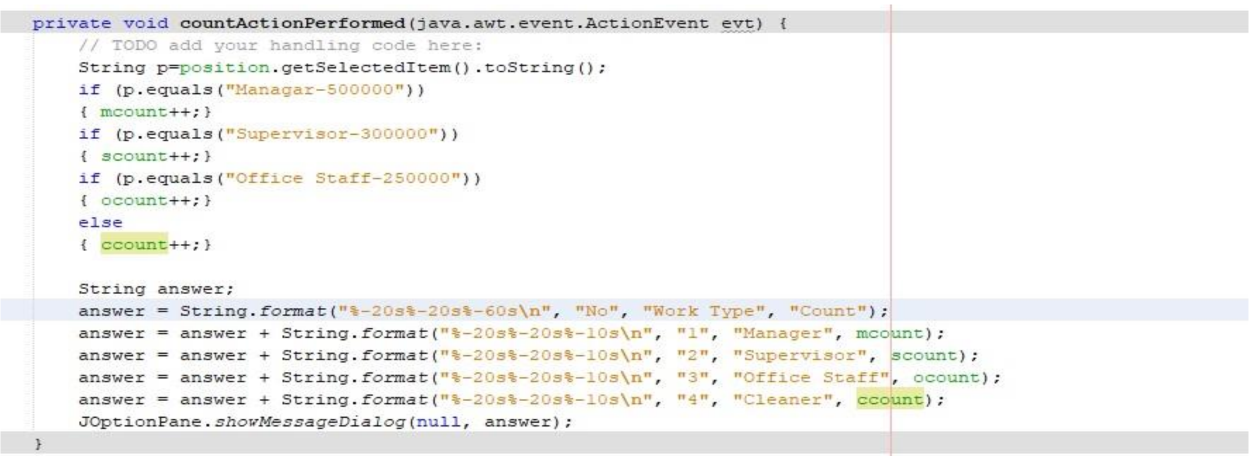
```
@SuppressWarnings("unchecked")
Generated Code
String[] savename = new String[100];
int index = 0;
private void caculateActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    String n = name.getText();
    savename[index] = n;
    index++;

    String jd = joindate.getText();
    String id = nrc.getText();
    String mail = email.getText();
    String d = department.getSelectedItem().toString();
    String p = position.getSelectedItem().toString();

    String answer;
    answer = String.format("%-50s%-50s%-60s%-60s%-60s%-40s\n", "Name", "Join Date", "NRC", "Email", "Department", "Position");
    answer = answer + String.format("%-30s%-50s%-50s%-50s%-50s%-40s", n, jd, id, mail, d, p);
    JOptionPane.showMessageDialog(null, answer);
}
```

<u>Calculate button coding</u>

In this calculate button, program will get name from user so I used get text code. Same as the name, I used get text code for join date, NRC and email so I can get information from user. For department and position, I used combo box so user can choose which department they will be working and which position they can work as. So, for combo box, I used get selected item so the program can show to user what they chose in that combo box. They all numbers and letters so I used string character but for numbers I used both string character and integer numbers.

<u>Ways to make changes about calculate button</u>

If company want to change the department and position or put new department or position, they can go fix it design, department and position combo box properties. Another way is, they can delete the combo box and put text box instead of combo box so user can put in the department and position where they want to work as. Programmer can also use as radio button or checkbox.



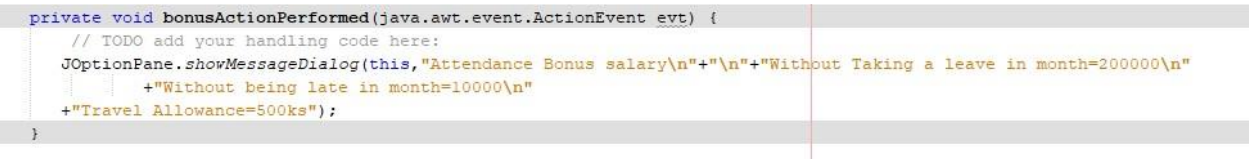
```
private void countActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    String p=position.getSelectedItem().toString();
    if (p.equals("Managar-500000"))
    { mcount++;}
    if (p.equals("Supervisor-300000"))
    { scount++;}
    if (p.equals("Office Staff-250000"))
    { ocount++;}
    else
    { ccount++;}

    String answer;
    answer = String.format("%-20s%-20s%-60s\n", "No", "Work Type", "Count");
    answer = answer + String.format("%-20s%-20s%-10s\n", "1", "Manager", mcount);
    answer = answer + String.format("%-20s%-20s%-10s\n", "2", "Supervisor", scount);
    answer = answer + String.format("%-20s%-20s%-10s\n", "3", "Office Staff", ocount);
    answer = answer + String.format("%-20s%-20s%-10s\n", "4", "Cleaner", ccount);
    JOptionPane.showMessageDialog(null, answer);
}
```

Employee count button

In this employee count button, user can see how many employees in which position. This button is simple. The program shows user all the employee in every position and if new employee gets in, the number will increase.

Ways to make changes about employee count button

If programmer want to change, they can show in combo box. Another is, they can make check box and if position is available, the program will show it's not available.



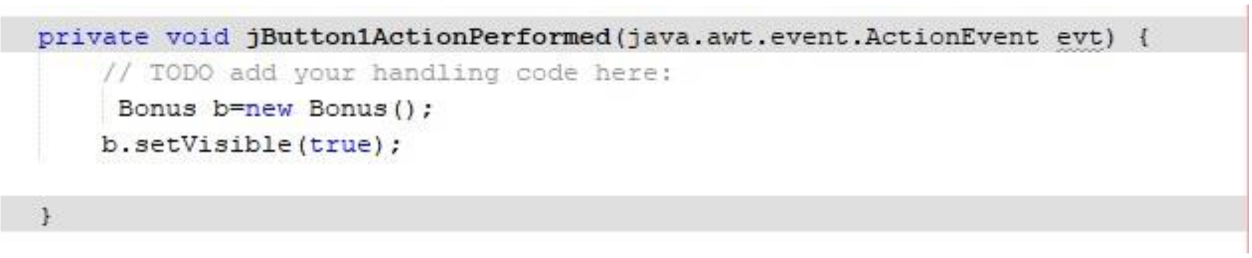
```
private void bonusActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
   JOptionPane.showMessageDialog(this,"Attendance Bonus salary\n"+"\n"+"Without Taking a leave in month=200000\n"
           +"Without being late in month=10000\n"
   +"Travel Allowance=500ks");
}
```

Bonus salary button

Bonus salary button is very simple. I put a note for user to let them know about company bonus salary.

Ways to make changes about bonus salary

Programmers can put more notes or changes designs.



```
private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
     Bonus b=new Bonus();
    b.setVisible(true);

}
```

Total salary button

Total salary button is simple. The program is connected to another form design if user pressed the button.

Total salary form

```
String    n=name.getText();
String
cnt=Dcount.getText();
int  c=Integer.parseInt(cnt);
int price=0;       int amt=0;
int  value=0;            String
msg="";        int T=500*c;


        if(m.isSelected())

        {price=500000+T;    msg="Hi    "+n+"\n"+"Your    Poition    is
Manager."+"\n"+"Salary= "+price;}


if(s.isSelected())
        {price=300000+T;    msg="Hi    "+n+"\n"+"Your    Poition    is
Supervisor."+"\n"+"Salary= "+price;}


if(o.isSelected())
```

```
        {price=250000+T; msg="Hi "+n+"\n"+"Your Poition is Office
Staff."+"\n"+"Salary= "+price;}


if(clean.isSelected())
        {price=100000+T; msg="Hi "+n+"\n"+"Your Poition is
Cleaner."+"\n"+"Salary= "+price;}


if(yes.isSelected())
        {amt=price; msg="You take a leave in month so"+"\n"+"You will not
have Attendance Bonus"+"\n+"+"Total salary= "+amt;}


if(no.isSelected())
        {amt=price+20000; msg="You have full attendance so"+"\n"+"You
salary will be= "+amt;}


        if(lateYes.isSelected())

        {value=amt; msg="You take a leave in month so"+"\n"+"You will not
have Attendance Bonus"+"\n+"+"Total salary= "+value;}


        if(lateNo.isSelected())

        {value=amt+10000; msg="You have full attendance so"+"\n"+"You
salary will be= "+value;}




        JOptionPane.showMessageDialog(null, msg);
```

```
    }
```

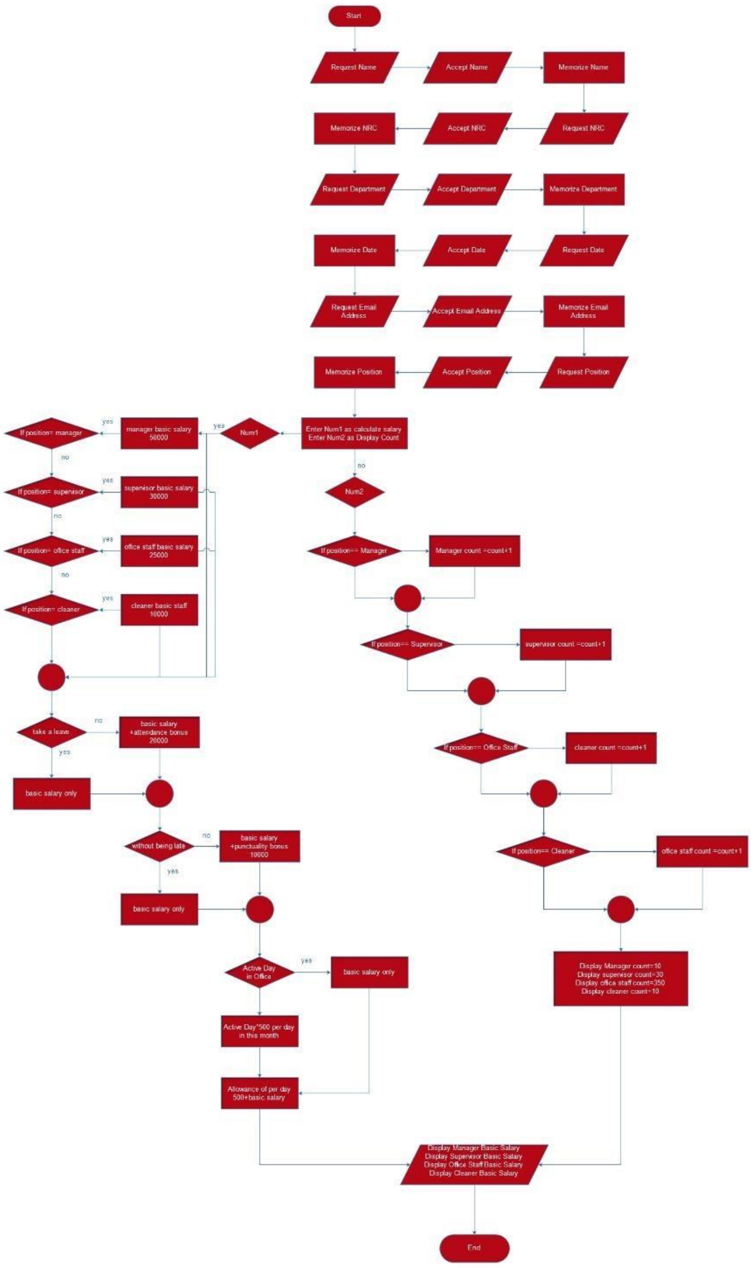
Salary button

If user put days count and choose positions, the program will calculate their salary with travel allowance. So, program gets text from text box beside days count label. I put their salary in coding for calculation and travel allowance will multiply with their basic salary and days count. If user said choose "yes" under than leave label, the program will calculate including 20000mmk as attendance bonus and if they pressed "no" there will be no attendance bonus in the calculation. Same as leave label, late label will do the calculate the same but 10000mmk as attendance bonus.

Ways to make changes for salary button

Programmer can change radio button into check box or combo box and they can change text box into calendar. If they want to put new salary, they can put it in design and get text in coding and make it integer so program can calculate for its own. Programmer can even change the message whatever they want in JOptionPane.showMessageDialog(null, msg).

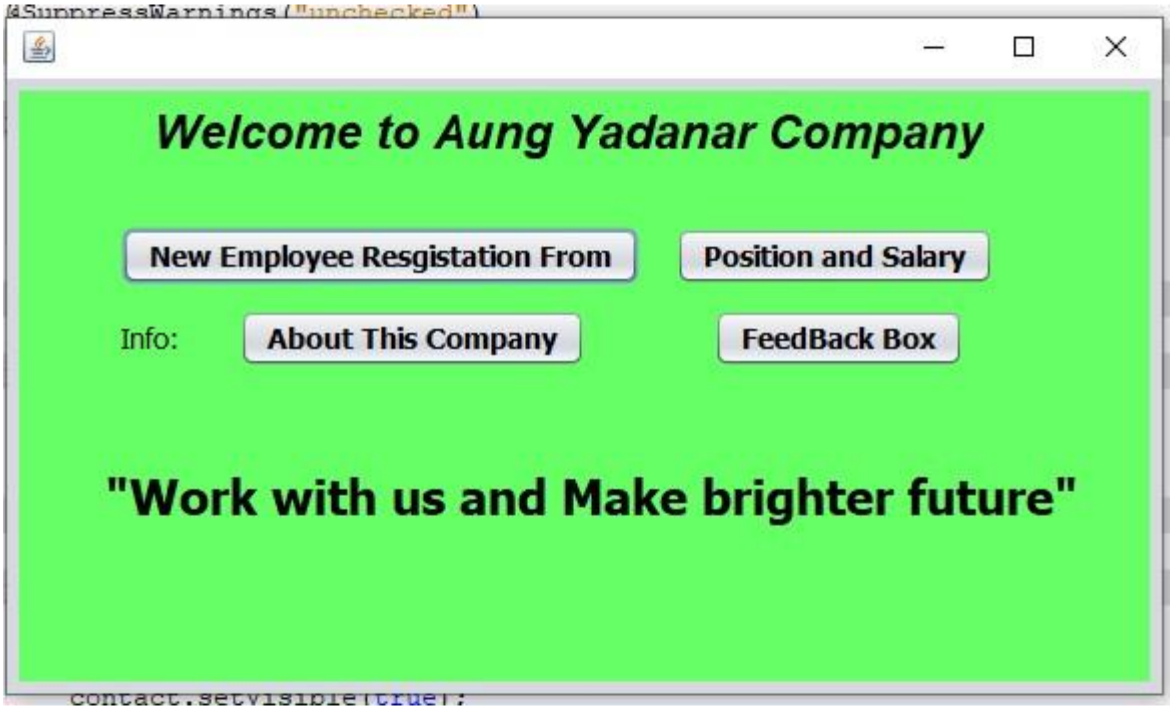
Evaluate the suitability of event driven programs for non-graphical applications



D2
Evaluate an event driven Application

Main Form

This is the main form. There are 4 button and motto of the company. Their theme is light green and the label of Aung Yadanar Company is in ever right corner of forms. The new employee registration button leads to p4 form which is know as new employee registration form. The position and Salary button leads to pNs form which is known as position and salary. The About this company button leads to all the information about the Aung Yadanar Company like contact number etc. The FeedBack box leads to the fb form which is known as feedback form where user can type anything what user want to say about the company.



```
@SuppressWarnings("unchecked")
```

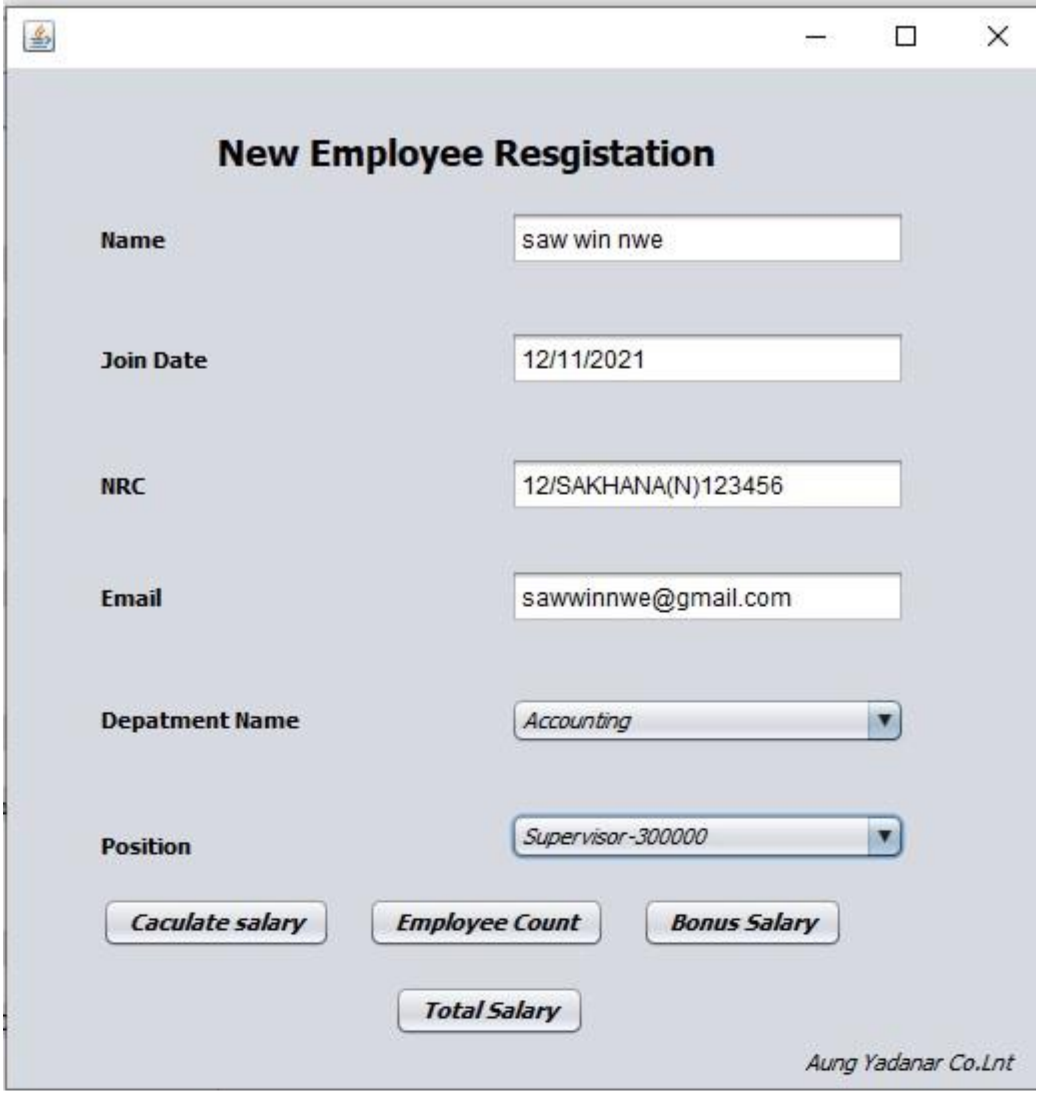
Welcome to Aung Yadanar Company

"Work with us and Make brighter future"

```
contact.setVisible(true);
```

Main Form

New employee registration from

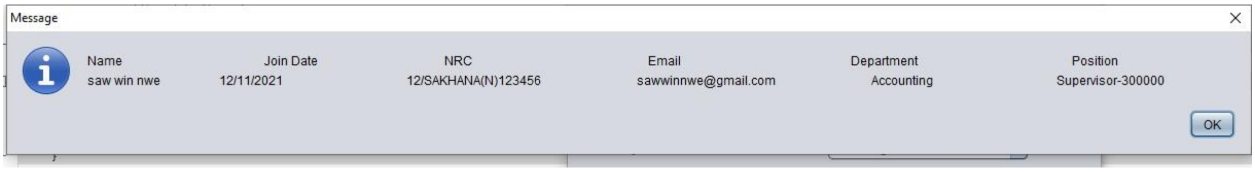


New Employee Resgistation

Name	saw win nwe
Join Date	12/11/2021
NRC	12/SAKHANA(N)123456
Email	sawwinnwe@gmail.com
Depatment Name	Accounting
Position	Supervisor-300000

New Employee registration form

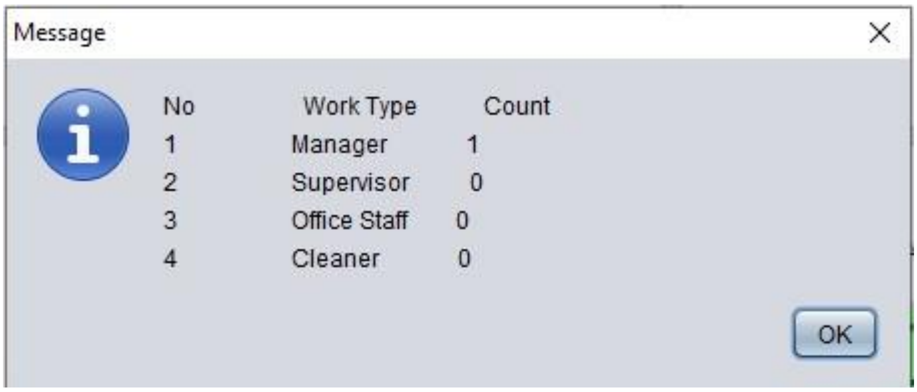
This is a new employee registration form. In this form, user needs to fill their name, join date, NRC, email and choose which department they will be working and which position they will be working. There are 4 departments and 4 positions in this company. There are Marketing department, HR department, accounting department and Administration department. User can work as manager, supervisor, office staff or cleaner in those 4 departments. After they filled the form, there are 4 buttons at the bottom of the form. The calculate salary button shows user information they just filled. Example show below,



Name	Join Date	NRC	Email	Department	Position
saw win nwe	12/11/2021	12/SAKHANA(N)123456	sawwinnwe@gmail.com	Accounting	Supervisor-300000

Calculate salary form

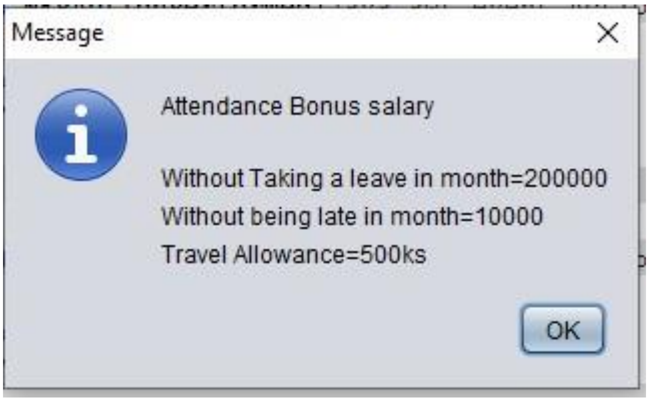
The employee count form shows how many employees are there in the department and position user chosen. Example shown below,



No	Work Type	Count
1	Manager	1
2	Supervisor	0
3	Office Staff	0
4	Cleaner	0

Employee Count Form

The bonus salary shows the attendance bonus salary that company gives to employee. Company gives every employee travel allowance 500mmk per days so employee can save up some money when they come to work. Another bonus is called Punctuality Bonus which if the employee didn't take a leave, they will get 2000mmk as bonus salary but if they did take a leave, they will only get basic salary which mean they won't get punctuality bonus for the month. Last but not least bonus also called punctuality bonus is if the employee didn't late every morning, they will get 10000mmk as bonus salary but if they did late some morning, they only get basic salary which means they won't get bonus salary. Example shown below,



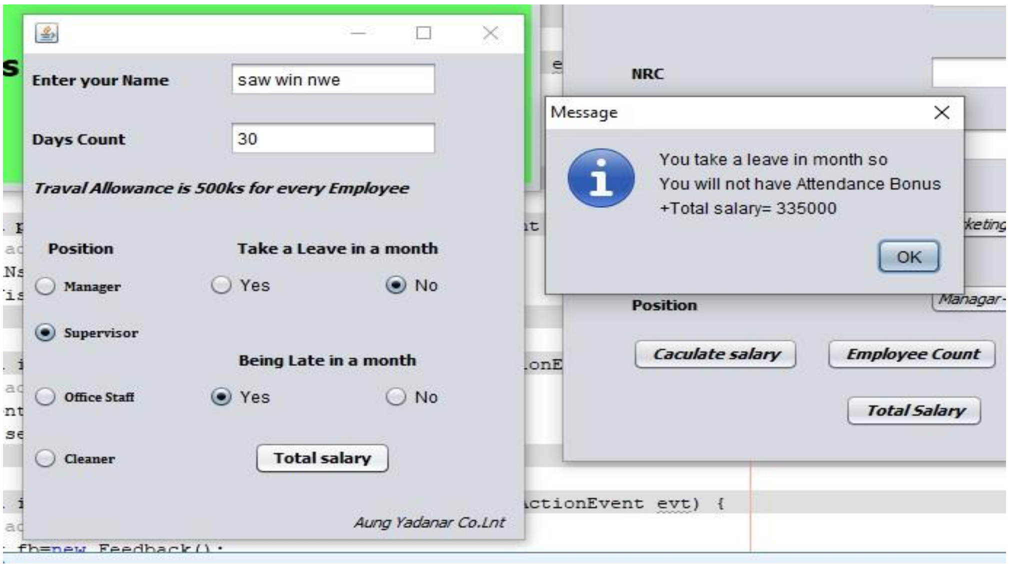
Message

Attendance Bonus salary

Without Taking a leave in month=200000
Without being late in month=10000
Travel Allowance=500ks

Bonus Salary

The last button total salary calculates how much the employee get per month. They need to fill their name and how many days they came to work. The program will multiply the days they came by 500mmk because they give every employee the travel allowance bonus. After that they need choose their position because basic salary are not the same and they need to choose yes or no depending on they take a leave or late within a month. If They took a leave within a month, the program will calculate without 20000mmk bonus. If they didn't take a leave, the program will calculate their basic salary plus 20000mmk. For being late within a month is same as taking a leave in month, they have to choose yes or no and the program will calculate with or without 10000mmk bonus. Example shown below,



Enter your Name: saw win nwe

Days Count: 30

Traval Allowance is 500ks for every Employee

Position: ○ Manager ● Supervisor ○ Office Staff ○ Cleaner

Take a Leave in a month: ○ Yes ● No

Being Late in a month: ● Yes ○ No

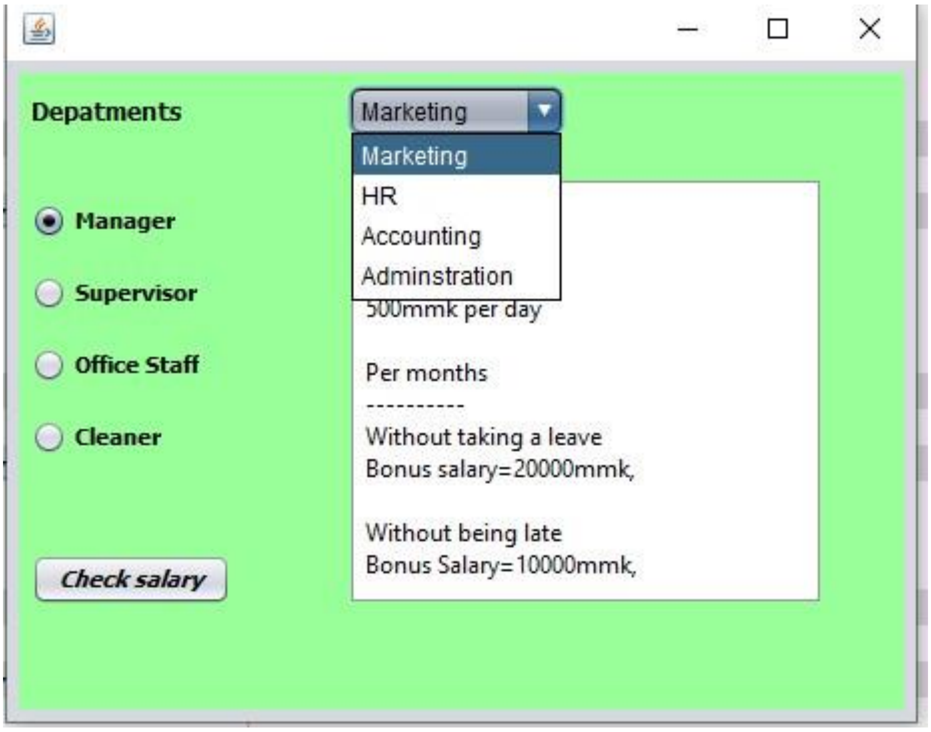
Aung Yadanar Co.Lnt

Message

You take a leave in month so
You will not have Attendance Bonus
+Total salary= 335000

Total salary form

Position and salary form



Depatments: Marketing

● Manager
○ Supervisor
○ Office Staff
○ Cleaner

500mmk per day

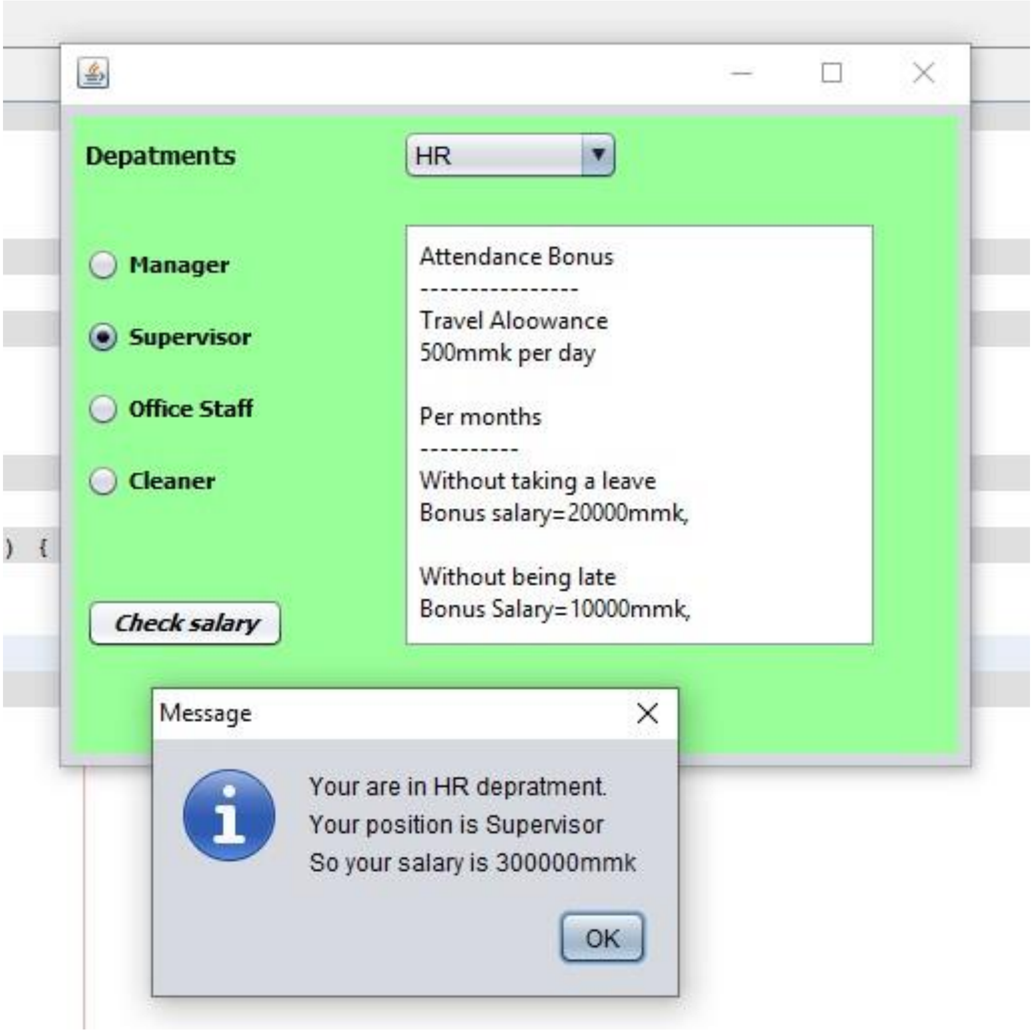
Per months

Without taking a leave
Bonus salary=20000mmk,

Without being late
Bonus Salary=10000mmk,

Position and salary form

This is position and salary form. If user press the position and salary button in main form, it leads to this form shown up photo which is known as position and salary form. In this form, user needs to choose a department and position so the program can run basic salary amount. For example, shown below,



Depatments

○ Manager
● Supervisor
○ Office Staff
○ Cleaner

```
Attendance Bonus
----------------
Travel Aloowance
500mmk per day

Per months
----------
Without taking a leave
Bonus salary=20000mmk,

Without being late
Bonus Salary=10000mmk,
```

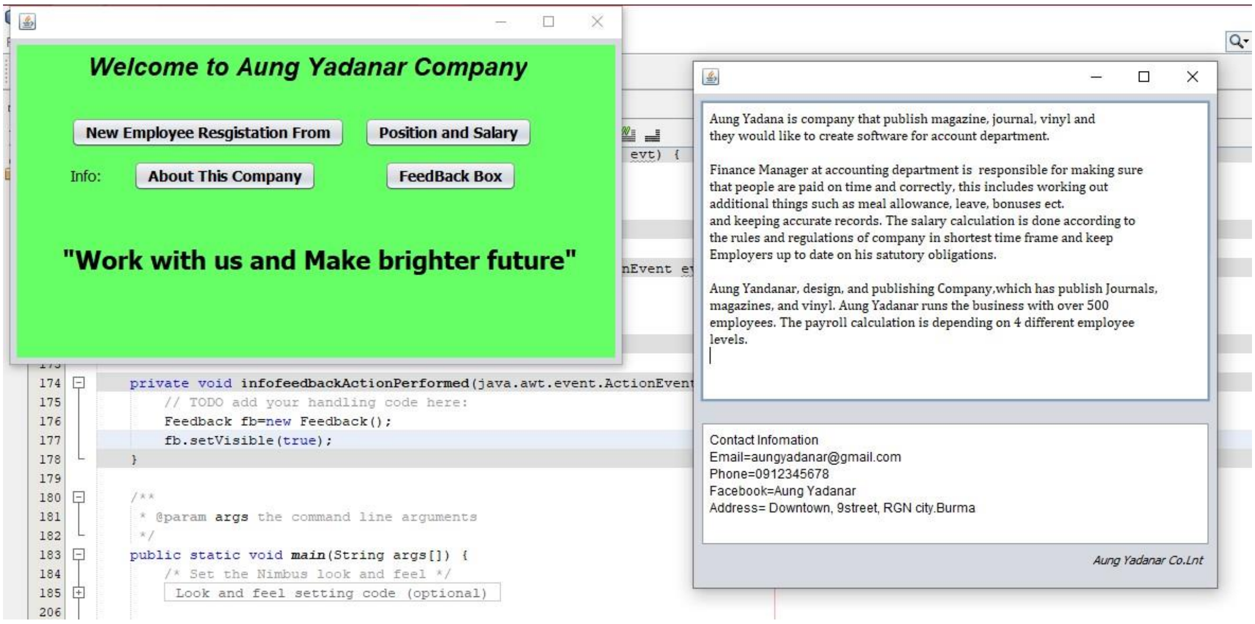
Message

Your are in HR depratment.
Your position is Supervisor
So your salary is 300000mmk

Position and Salary form

There is a note in that position and salary form. There company shows the attendance bonus in the form. In attendance bonus, employee cam has 500mmk every day as travel allowance. The program shows their basic salary as their position and as bonus without being late or taking a month the employee gets extra bonus as it’s show in a note.

About this Company


Welcome to Aung Yadanar Company
New Employee Resgistation From
Position and Salary
Info:
About This Company
FeedBack Box
"Work with us and Make brighter future"
Aung Yadanar Co.Lnt

Aung Yadana is company that publish magazine, journal, vinyl and
they would like to create software for account department.

Finance Manager at accounting department is responsible for making sure
that people are paid on time and correctly, this includes working out
additional things such as meal allowance, leave, bonuses ect.
and keeping accurate records. The salary calculation is done according to
the rules and regulations of company in shortest time frame and keep
Employers up to date on his satutory obligations.

Aung Yandanar, design, and publishing Company,which has publish Journals,
magazines, and vinyl. Aung Yadanar runs the business with over 500
employees. The payroll calculation is depending on 4 different employee
levels.

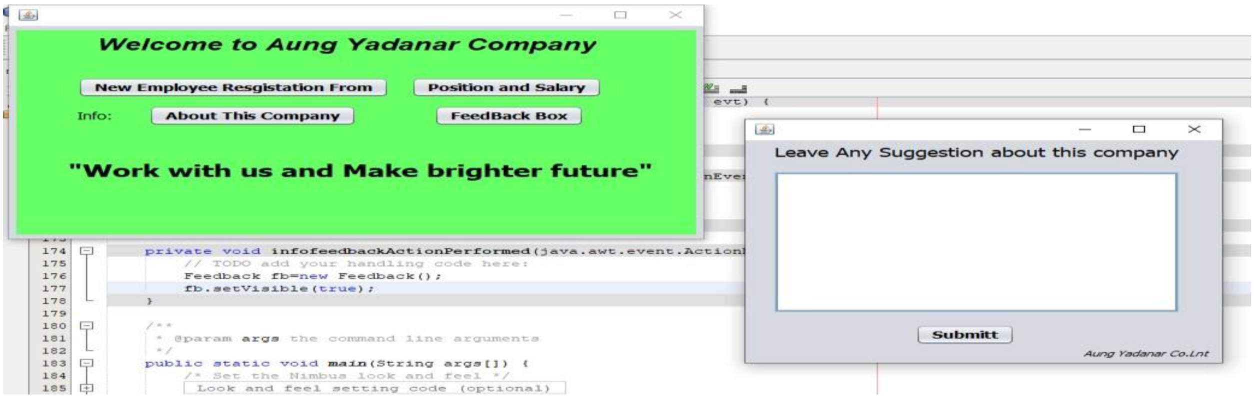
Contact Infomation
Email=aungyadanar@gmail.com
Phone=0912345678
Facebook=Aung Yadanar
Address= Downtown, 9street, RGN city.Burma

```java
private void infofeedbackActionPerformed(java.awt.event.ActionEvent
    // TODO add your handling code here:
    Feedback fb=new Feedback();
    fb.setVisible(true);
}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    /* Set the Nimbus look and feel */
    Look and feel setting code (optional)
```

About this company form

This is the about this company form. In this form, user can read about the company, information and contact information. There are details about the company and virous way to contact the company as well. Example is shown in the photo up there.

Feedback Box


Welcome to Aung Yadanar Company
New Employee Resgistation From
Position and Salary
Info:
About This Company
FeedBack Box
"Work with us and Make brighter future"
Leave Any Suggestion about this company
Submitt
Aung Yadanar Co.Lnt

```java
private void infofeedbackActionPerformed(java.awt.event.Action
    // TODO add your handling code here:
    Feedback fb=new Feedback();
    fb.setVisible(true);
}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    /* Set the Nimbus look and feel */
    Look and feel setting code (optional)
```

Feedback box form

This is feedback box form. In this form, user can write anything like giving suggestion or things company should improve or anything else. Their letter will send to the company email directly and within a few hours or a few days, the company will reply to the user. Example is shown in the photo up there.

The Improvement Plan

First of all, most people want to be happy while working so the company should be improve by making fun activity every last days of the month so employee can have fun in a company so they won't be taking a leave or even they want to take a leave they will think about it because of all the fun they had while working in that company. Secondly, the company should upgrade their program at least once in a month for a security or news in the company for the new employee. Third improvement is the company need to tell more details about their company in the about this company form so the new employee can look of the history of the company. Last but not least, the company should give a promotion every year for hard working employee so other employee will get motivation from them and they will start to work hard too and the company can actually make a brighter future.

Database improvement

Databases help improve business performance by making inventory easier to manage and track. Too much or too little inventory is dangerous. Having a database means you can effectively track your inventory, minimize waste, and ensure that you are always at the right level to maximize sales. Database management systems are critical to your business because they provide an effective method for handling large amounts of different types of data. Effective access to data enables companies to quickly make informed decisions. When planning a growth strategy, a high-quality database system may be the most valuable resource in your business. Most databases have reporting functions, such as productivity tracking and data analysis, which can predict future trends based on existing customer-based needs. A strong database system is essential for growth before the competition. If your customers are the core of your business, then you need a good CRM database to thrive. You can use a comprehensive CRM database to store and process information, such as customer contact information, potential customers, and interaction history. You can also use some CRM systems to run and track your marketing activities.

Web improvement

Web applications can help organizations reach new customers and introduce them to the services they provide. Web applications can play an important role in the branding process. With their help, it is easy to maintain proper communication channels between the viewer and the business organization. Business systems built with web applications are web-based, so if you are connected to the Internet, you can access them 24 hours a day, 7 days a week. It is also very flexible and can be accessed from almost any device or browser. If you need to update the desktop software, you need to update each device on which your application is installed separately. Your business is vulnerable to security breaches because you usually leave this task to your employees, and if time is important, you might skip it. Deploy security or feature updates to every version of your web application without downtime and compare it to a web application that gives users immediate access to the updated version of the application. One of the biggest problems that customers face when using off-the-shelf software is that the software continues to grow and is not suitable for the business, or at least impossible without expensive upgrades. Custom web applications are tailored specifically to your business needs, making them fully flexible and scalable to meet your business needs and growth. Application customization can include different levels of access to your own brand and user permissions. Only keep functions related to your business. As your business grows, you can reduce training time and add features.

Payment improvement

As a company, you need to understand what is required for each payroll to ensure that your payroll complies with UK regulations. The payroll may look different, but the basic information must be the same. The payroll must include at least total wages, variable deductions, fixed deductions, net wages, and payment methods. The payroll also includes tax number, social security number, salary rate, and additional payments or deductions, such as overtime, bonuses, and pensions.