

Swing

Lecture - 1

awt & swing.

AWT	Swing
→ platform dependent (look is different in different O.S.)	→ platform independent (we can customise the look)
→ in awt we extends Frame class to create frame.	→ in swing we extends JFrame class to create the frame.
→ package name → javax.awt.Frame;	→ package name → javax.swing.JFrame;
→ window(Frame) close → it does not contain any method for closing the window therefore we use listeners in awt.	→ window close → it contains method for closing the window.
→ Components → it has less no. of components. 95 compared to swing.	→ Components → it contains more components as compared to awt.
→ memory → it is called heavy weight component because it takes more memory.	→ memory → it is called as light weight component because it takes less memory.
→ Speed → slow in speed bcs of memory	→ fast → fast in speed.
→ Look & feel → does not support pluggable look & feel	→ Look & feel → supports pluggable look & feel.
→ does not follow mvc architecture	→ it follows mvc architecture.

Swing

Lecture - 1

awt & swing.

AWT

→ platform dependent
(look is different in different O.S.)

→ in awt we extends Frame class to create frame.

→ package name → javax.awt.Frame;

→ window(Frame) close → it does not contain any method for closing the window therefore we use listeners in awt.

→ components → it has less no. of components. 95 compared to swing.

→ memory → it is called heavy weight component because it takes more memory.

→ speed → slow in speed bcs of memory

→ look & feel → does not support pluggable look & feel

→ does not follow mvc architecture

Swing

→ platform independent
(we can customise the look)

→ in swing we extends JFrame class to create the frame.

→ package name → javax.swing.JFrame;

→ window close → it contains method for closing the window.

Set Default Close Operation (EXIT_ON_CLOSE)

→ components → it contains more components as compared to awt.

→ memory → it is called as light weight component because it takes less memory.

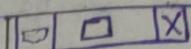
→ fast → fast in speed.

→ look & feel → support pluggable look & feel.

→ it follows mvc architecture.

1) import javax.swing.*;
 class FDemo extends JFrame {

o/p →

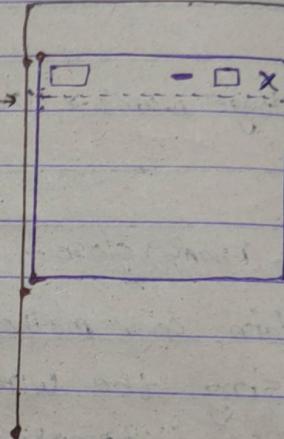


}

```
class Demo1{
  public static void main(String ar[]){
    FDemo f = new FDemo();
    f.setVisible(true);
}
```

2) import javax.swing.*;
 class FDemo extends JFrame {

o/p →



}

```
class Demo1{
  public static void main(String ar[]){
    FDemo f = new FDemo();
    f.setVisible(true);
    f.setSize(500,500);
}
```

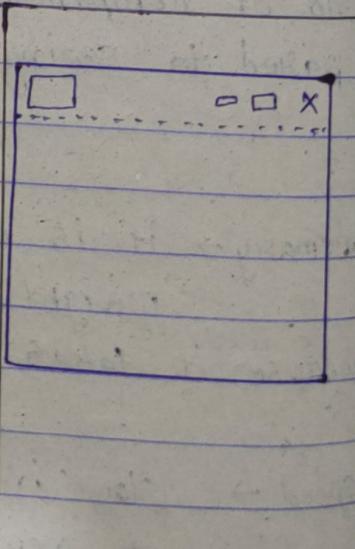
3) import javax.swing.*;

~~public~~ class FDemo extends JFrame {

{

class Demo1{

o/p →



public static void main(String ar[]){

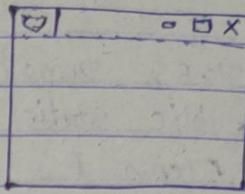
FDemo f = new FDemo();

f.setVisible(true);

}

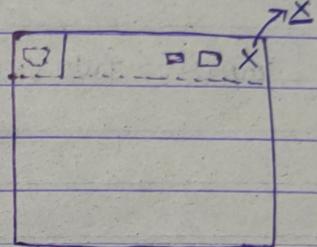
f.setSize(500,500);

4) import javax.swing.*;
 class FDemo extends JFrame { o/p →
 }



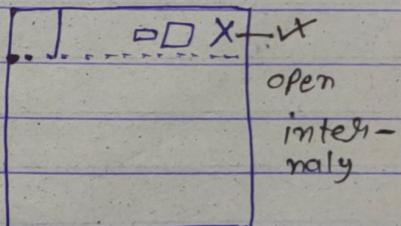
class Demo1 { public static void main(String args){
 FDemo f = new FDemo();
 f.setVisible(true);
 f.setSize(500,500);
 f.setLocation(200,100);
 } } 3 3

5) import javax.swing.*;
 class FDemo extends JFrame {



} class Demo2 {
 public static void main(String args){
 FDemo f = new FDemo();
 f.setVisible(true);
 f.setSize(500,500);
 f.setLocation(200,100);
 } } 3 3

6) import javax.swing.*;
 class FDemo extends JFrame {
 }



class Demo2 {
 public static void main(String args){
 FDemo f = new FDemo();
 f.setVisible(true);
 f.setSize(500,500);
 f.setLocation(200,100);
 } } 3 3

E:\JavaDemo\Swing-demo> java Demo2

- c/t + c →

E:\JavaDemo\Swing-demo>

When we tab on frame does not close from internally.

1) `import javax.swing.*;`

`class FDemo extends JFrame {`

3

`class Demo2 {`

`public static void main(String args[]) {`

`FDemo f = new FDemo();`

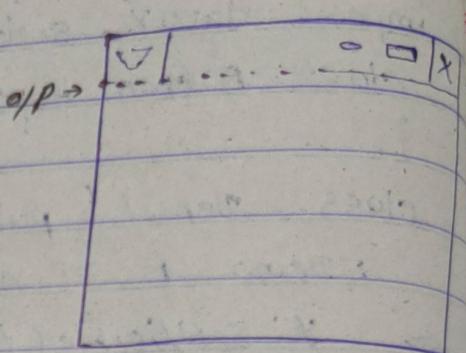
`f.setVisible(true);`

`f.setSize(500, 500);`

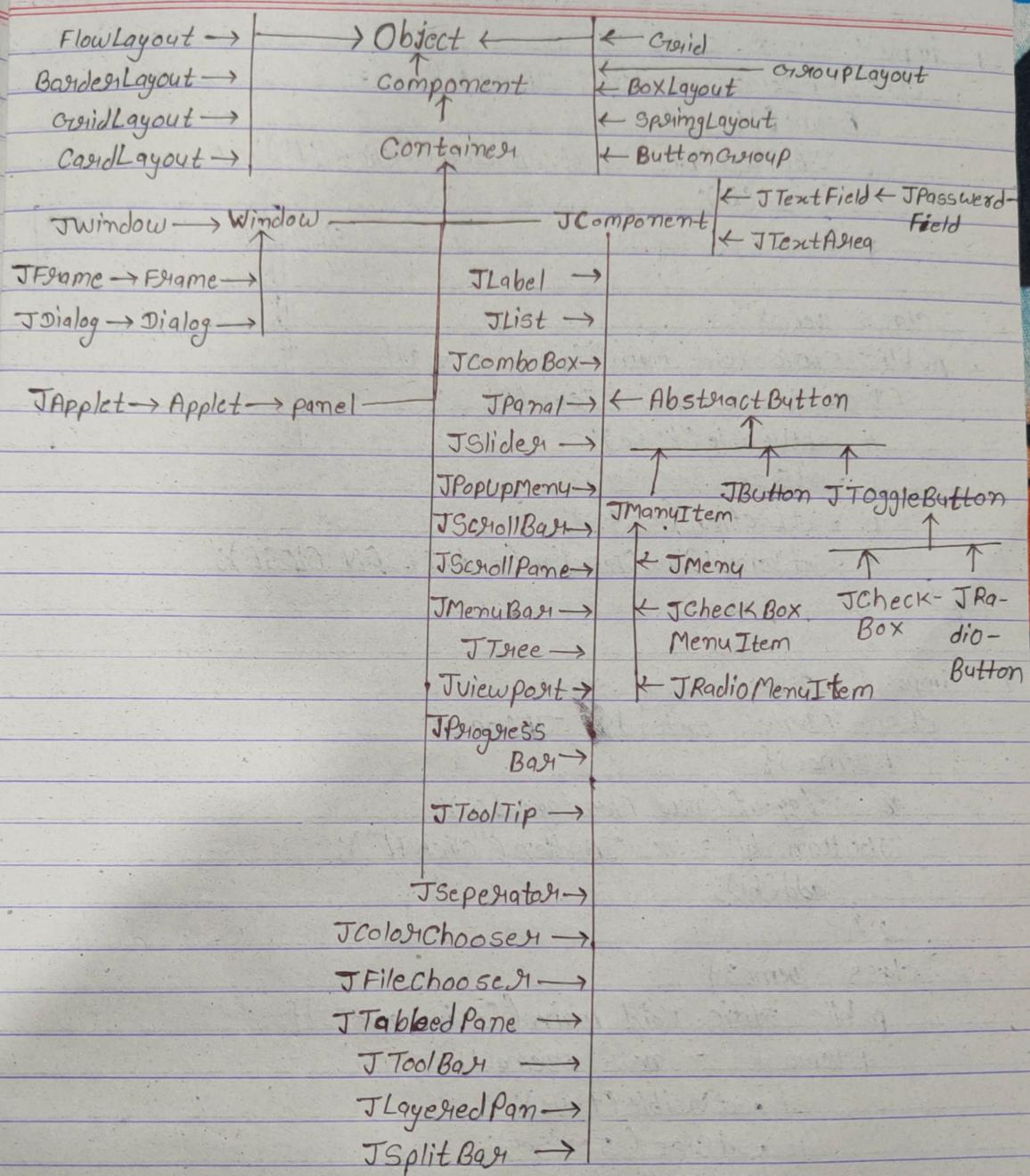
`f.setLocation(200, 100);`

`f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);`

3 3

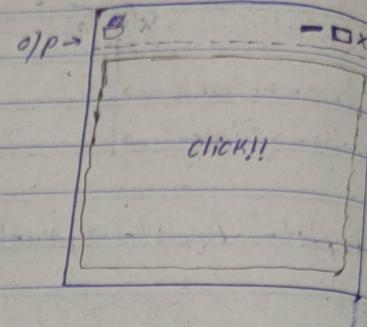


1) `import javax.swing.*;`



1) import javax.swing.*;
 class FDemo extends JFrame {
 FDemo() {
 JButton b1 = new JButton("click !!");
 add(b1);
 } }

class Demo3 {
 public static void main(String args[]) {
 FDemo f = new FDemo();
 f.setVisible(true);
 f.setSize(500, 500);
 f.setLocation(100, 200);
 f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
 } }



2) import javax.swing.*;
 class FDemo extends JFrame {
 FDemo() {
 setLayout(new FlowLayout());
 JButton b1 = new JButton("click !!");
 add(b1);
 } }

class Demo3 {
 public static void main(String args[]) {
 FDemo f = new FDemo();
 f.setVisible(true);
 f.setSize(500, 500);
 f.setLocation(100, 200);
 f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
 } }

1) import
 import
 class
 FDemo

O/P → Error: Cannot find symbol

Symbol: class FlowLayout
 Location: FDemo.

```

3) import javax.swing.*;
import java.awt.*;
class FDemo extends JFrame {
    FDemo() {
        setLayout(new FlowLayout());
        JButton b1 = new JButton("Click!!");
        add(b1);
    }
}

```

3/P →

click!!

```

class Demo3 {
    public static void main(String args[]) {
        FDemo f = new FDemo();
        f.setVisible(true);
        f.setSize(500, 500);
        f.setLocation(100, 200);
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    }
}

```

```

1) import javax.swing.*;
import java.awt.*;
class FDemo extends JFrame {
    FDemo() {
        setLayout(new FlowLayout());
        JButton b1 = new JButton("Click!!");
        add(b1);
        JButton b2 = new JButton("Click222");
        add(b2);
    }
}

```



click!! click222

```

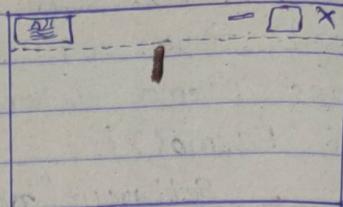
class Demo4 {
    public static void main(String args[]) {
        FDemo f = new FDemo();
        f.setVisible(true);
        f.setSize(500, 500);
        f.setLocation(100, 200);
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    }
}

```

{}

Lecture - 5

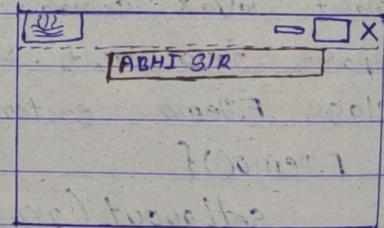
1) import javax.swing.*;
 import java.awt.*;
 class FDemo extends JFrame {
 FDemo(){
 setLayout(new FlowLayout());
 JTextField tx1 = new JTextField();
 add(tx1);
 }
 }



1) import
import
class

class Demo5 {
 public static void main(String args[]){
 FDemo f = new FDemo();
 f.setVisible(true);
 f.setSize(500, 500);
 f.setLocation(100, 200);
 f.setDefaultCloseOperation(f.EXIT_ON_CLOSE);
 }
}

2) import javax.swing.*; o/p →
 import java.awt.*;
 class FDemo extends JFrame {
 FDemo(){
 setLayout(new FlowLayout());
 JTextField tx1 = new JTextField(20);
 add(tx1);
 }
 }



1) import
import
class

class Demo5 {
 public static void main(String args[]){
 FDemo f = new FDemo();
 f.setVisible(true);
 f.setSize(500, 500);
 f.setLocation(100, 200);
 f.setDefaultCloseOperation(f.EXIT_ON_CLOSE);
 }
}

33
class
public
FD

F

class
pub

Lecture-5

Lecture-6.7

```

1) import javax.swing.*;
import java.awt.*;
class FDemo extends JFrame {
    FDemo() {
        setLayout(new FlowLayout());
        JPasswordField tpf = new JPasswordField(20);
        add(tpf);
    }
    class Demo6 {
        public static void main(String args[]) {
            FDemo f = new FDemo();
            f.setVisible(true);
            f.setSize(500, 500);
            f.setLocation(100, 200);
            f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        }
    }
}

```

```

1) import javax.swing.*;
import java.awt.*;
class FDemo extends JFrame {
    FDemo() {
        setLayout(new FlowLayout());
        JPasswordField tpf = new JPasswordField(20);
        add(tpf);
    }
    class Demo6 {
        public static void main(String args[]) {
            FDemo f = new FDemo();
            f.setVisible(true);
            f.setSize(500, 500);
            f.setLocation(100, 200);
            f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        }
    }
}

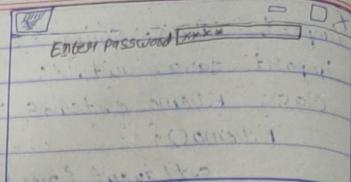
```

Lecture-8

```

2) import javax.swing.*;
import java.awt.*;
class FDemo extends JFrame {
    FDemo() {
        setLayout(new FlowLayout());
        JPasswordField tpf = new JPasswordField("Enter Password");
        add(tpf);
        JPasswordField tpf1 = new JPasswordField();
        add(tpf1);
    }
    class Demo7f {
        public static void main(String args[]) {
            FDemo f = new FDemo();
            f.setVisible(true);
            f.setSize(500, 500);
            f.setLocation(100, 200);
            f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        }
    }
}

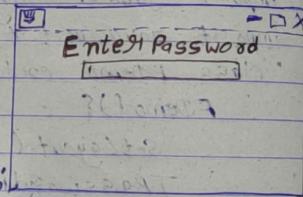
```



```

3) import javax.swing.*;
import java.awt.*;
class FDemo extends JFrame {
    FDemo() {
        setLayout(new FlowLayout());
        Font f = new Font("", Font.BOLD, 50);
        JLabel ep = new JLabel("Enter Password");
        ep.setFont(f);
        add(ep);
        JPasswordField tpf = new JPasswordField(20);
        add(tpf);
    }
    class Demo8 {
        public static void main(String args[]) {
            FDemo f = new FDemo();
            f.setVisible(true);
            f.setSize(500, 500);
            f.setLocation(100, 200);
            f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        }
    }
}

```



```

2) import javax.swing.*;
import java.awt.*;
class FDemo extends JFrame {
    FDemo() { setLayout(new FlowLayout());
        Font f = new Font("", Font.BOLD, 50);
        JLabel ep = new JLabel("Enter Password");
        ep.setFont(f);
        JPasswordField tpf = new JPasswordField(20);
        add(tpf);
    }
    class Demo8 {
        public static void main(String args[]) {
            FDemo f = new FDemo();
            f.setVisible(true);
            f.setSize(500, 500);
            f.setLocation(100, 200);
            f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        }
    }
}

```

```

3) import javax.swing.*;
import java.awt.*;
class FDemo extends JFrame {
    FDemo() { setLayout(new FlowLayout());
        Font f = new Font("", Font.BOLD, 50);
        JLabel ep = new JLabel("Enter Password");
        ep.setFont(f);
        JPasswordField tpf = new JPasswordField(20);
        tpf.setFont(f);
        add(tpf);
    }
    class Demo8 {
        public static void main(String args[]) {
            FDemo f = new FDemo();
            f.setVisible(true);
            f.setSize(500, 500);
            f.setLocation(100, 200);
            f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        }
    }
}

```

```

class Demo8 {
    public static void main(String args[]) {
        FDemo f = new FDemo();
        f.setVisible(true);
        f.setSize(500, 500);
        f.setLocation(100, 200);
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    }
}

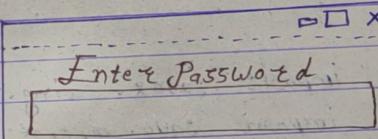
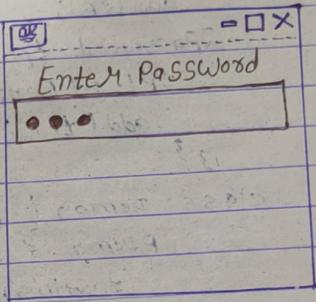
```

```

ME-8
D.X
1) import javax.swing.*;
import java.awt.*;
class FDemo extends JFrame {
    FDemo() { setLayout(new FlowLayout());
        Font f = new Font("", Font.BOLD, 50);
        JLabel ep = new JLabel("Enter password");
        ep.setFont(f); add(ep);
        JPasswordField tpl = new JPasswordField(10);
        tpl.setFont(f);
        add(tpl);
    }
}
class DemoA {
    public static void main(String args[]) {
        FDemo f = new FDemo();
        f.setVisible(true);
        f.setSize(500, 500);
        f.setLocation(100, 200);
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    }
}

2) import javax.swing.*;
import java.awt.*;
class FDemo extends JFrame {
    FDemo() { setLayout(new FlowLayout());
        Font f = new Font("Hollow Solid Italic", Font.BOLD, 50);
        JLabel ep = new JLabel("Enter password");
        ep.setFont(f);
        add(ep);
        JPasswordField tpl = new JPasswordField(10);
        tpl.setFont(f);
        add(tpl);
    }
}
class DemoB {
    public static void main(String args[]) {
        FDemo f = new FDemo();
        f.setVisible(true);
        f.setSize(500, 500);
        f.setLocation(100, 200);
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    }
}

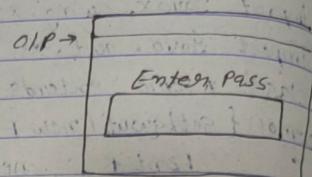
```



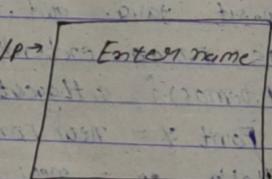
Lecture 9

1) import javax.swing.*;
 import java.awt.*;
 class FDemo extends JFrame {
 FDemo(){
 setLayout(new FlowLayout());
 Font f = new Font("Harrow Solid Italic", Font.BOLD, 50);
 JLabel ep = new JLabel("Enter Password");
 ep.setFont(f);
 add(ep);
 JPasswordField tpf = new JPasswordField(10);
 tpf.setFont(f);
 add(tpf);
 }
 class Demo{ public static void main(String args){
 FDemo f = new FDemo();
 f.setVisible(true); f.setSize(500,500);
 f.setLocation(100,100);
 f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
 }
 }

2) import javax.swing.*;
 import java.awt.*;
 class FDemo extends JFrame {
 FDemo(){
 setLayout(new FlowLayout());
 Font f = new Font("Harrow Solid Italic", Font.BOLD, 50);
 JLabel un = new JLabel("Enter Name");
 un.setFont(f);
 add(un);
 }
 class Demo{ public static void main(String args){
 FDemo f = new FDemo();
 f.setVisible(true); f.setSize(500,500);
 f.setLocation(100,100);
 f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
 }
 }



3) import javax.swing.*;
 import java.awt.*;
 class FDemo extends JFrame {
 FDemo(){
 setLayout(new FlowLayout());
 Font f = new Font("Harrow Solid Italic", Font.BOLD, 50);
 JLabel un = new JLabel("Enter name");
 un.setFont(f);
 add(un);
 JTextField txl = new JTextField(" ");
 txl.setFont(f);
 add(txl);
 }
 class Demo{ public static void main(String args){
 FDemo f = new FDemo();
 f.setVisible(true); f.setSize(500,500);
 f.setLocation(100,100);
 f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
 }
 }



```

3) import javax.swing.*;
import java.awt.*;
class FDemo extends JFrame
{
    FDemo()
    {
        setLayout(new FlowLayout());
        Font f = new Font("Harlow Solid Italic", Font.BOLD, 50);
        JLabel un = new JLabel("Enter Name");
        un.setFont(f);
        add(un);
        JTextField txl = new JTextField(10);
        txl.setFont(f);
        add(txl);
    }
}

class Demogi
public static void main(String args)
{
    FDemo f = new FDemo();
    f.setVisible(true);
    f.setSize(500, 500);
    f.setLocation(100, 100);
    f.setDefaultCloseOperation(f.EXIT_ON_CLOSE);
}

```

o/p →

Enter name
Enter Pass


```

4) import javax.swing.*;
import java.awt.*;
class FDemo extends JFrame
{
    FDemo()
    {
        setLayout(new FlowLayout());
        Font f = new Font("Harlow Solid Italic", Font.BOLD, 50);
        JLabel un = new JLabel("Enter Name");
        un.setFont(f);
        add(un);
        JTextField txl = new JTextField(10);
        txl.setFont(f);
        add(txl);
        JLabel up = new JLabel("Enter Pass");
        up.setFont(f);
        add(up);
    }
}

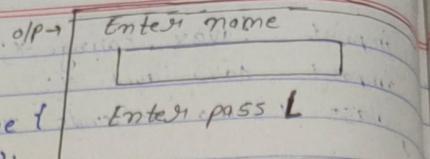
class Demogi
public static void main(String args)
{
    FDemo f = new FDemo();
    f.setVisible(true);
    f.setSize(500, 500);
    f.setLocation(100, 100);
    f.setDefaultCloseOperation(f.EXIT_ON_CLOSE);
}

```

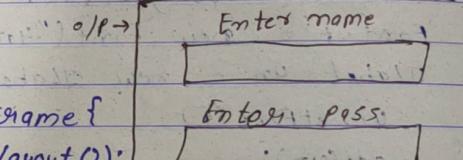
o/p →

Enter name
Enter Pass

5) import javax.swing.*;
 import java.awt.*;
 class FDemo extends JFrame {
 FDemo() { setLayout(new FlowLayout());
 Font f = new Font("Arial Black", Font.BOLD, 50);
 JLabel un = new JLabel("Enter name");
 un.setFont(f);
 add(un);
 JTextField tx1 = new JTextField(10);
 tx1.setFont(f);
 add(tx1);
 JLabel up = new JLabel("Enter pass");
 up.setFont(f);
 add(up);
 JPasswordField tp2 = new JPasswordField();
 tp2.setFont(f);
 add(tp2);
 } }



6) import javax.swing.*;
 import java.awt.*;
 class FDemo extends JFrame {
 FDemo() { setLayout(new FlowLayout());
 Font f = new Font("Arial Black", Font.BOLD, 50);
 JLabel un = new JLabel("Enter name");
 un.setFont(f);
 add(un);
 JTextField tx1 = new JTextField(10);
 tx1.setFont(f);
 add(tx1);
 JLabel up = new JLabel("Enter pass");
 up.setFont(f);
 add(up);
 JPasswordField tp = new JPasswordField(10);
 tp.setFont(f);
 add(tp);
 } }



7) import javax.swing.*;
 import java.awt.*;
 class FDemo extends JFrame {
 FDemo() { setLayout(new FlowLayout());
 Font f = new Font("Arial Black", Font.BOLD, 50);
 JLabel un = new JLabel("Enter name");
 un.setFont(f);
 add(un);
 JTextField tx1 = new JTextField(10);
 tx1.setFont(f);
 add(tx1);
 JLabel up = new JLabel("Enter pass");
 up.setFont(f);
 add(up);
 JPasswordField tp = new JPasswordField(10);
 tp.setFont(f);
 add(tp);
 JButton bl = new JButton("Logout");
 bl.addActionListener(f);
 add(bl);
 } }

8) import javax.swing.*;
 import java.awt.*;
 class FDemo extends JFrame {
 FDemo() { setLayout(new FlowLayout());
 Font f = new Font("Arial Black", Font.BOLD, 50);
 JLabel un = new JLabel("Enter name");
 un.setFont(f);
 add(un);
 JTextField tx1 = new JTextField(10);
 tx1.setFont(f);
 add(tx1);
 JLabel up = new JLabel("Enter pass");
 up.setFont(f);
 add(up);
 JPasswordField tp = new JPasswordField(10);
 tp.setFont(f);
 add(tp);
 } }

CLASS DEMO {
 public static void main(String args){
 FDemo f = new FDemo();
 f.setVisible(true);
 f.setSize(500, 500);
 f.setDefaultCloseOperation(f.EXIT_ON_CLOSE);
 } }

CLASS DEMO {
 public static void main(String args){
 FDemo f = new FDemo();
 f.setVisible(true);
 f.setSize(500, 500);
 f.setDefaultCloseOperation(f.EXIT_ON_CLOSE);
 } }

```

7) import javax.swing.*;
import java.awt.*;

class FDemo extends JFrame {
    FDemo() {
        setLayout(new FlowLayout());
        Font f = new Font("Arial Black", Font.BOLD, 20);
        JLabel un = new JLabel("Enter name");
        un.setFont(f);
        add(un);
        JTextField txl = new JTextField(10);
        txl.setFont(f);
        add(txl);
        JLabel up = new JLabel("Enter pass");
        up.setFont(f);
        add(up);
        JPasswordField tp = new JPasswordField(10);
        tp.setFont(f);
        add(tp);
        JButton bl = new JButton("Login");
        add(bl);
    }
}

8) import javax.swing.*;
import java.awt.*;

class FDemo extends JFrame {
    FDemo() {
        setLayout(new FlowLayout());
        Font f = new Font("Arial Black", Font.BOLD, 20);
        JLabel un = new JLabel("Enter name");
        un.setFont(f);
        add(un);
        JTextField txl = new JTextField(10);
        txl.setFont(f);
        add(txl);
        JLabel up = new JLabel("Enter pass");
        up.setFont(f);
        add(up);
    }
}

```

O/P →

Enter name	<input type="text"/>
Enter pass	<input type="password"/> Login

```

class FDemo {
    public static void main(String args) {
        FDemo f = new FDemo();
        f.setVisible(true);
        f.setSize(500, 500);
        f.setLocation(100, 100);
        f.setDefaultCloseOperation(F.EXIT_ON_CLOSE);
    }
}

```

3)

Enter name	<input type="text"/>
Enter pass	<input type="password"/>
	Login

```

class FDemo {
    public static void main(String args) {
        FDemo f = new FDemo();
        f.setVisible(true);
        f.setSize(500, 500);
        f.setLocation(100, 100);
        f.setDefaultCloseOperation(F.EXIT_ON_CLOSE);
    }
}

```

```

7) import javax.swing.*;
import java.awt.*;

class FDemo extends JFrame {
    FDemo() {
        setLayout(new FlowLayout());
        Font f = new Font("Arial Black", Font.BOLD, 50);
        JLabel un = new JLabel("Enter name");
        un.setFont(f);
        add(un);
        JTextField txl = new JTextField(10);
        txl.setFont(f);
        add(txl);
        JLabel up = new JLabel("Enter pass");
        up.setFont(f);
        add(up);
        JPasswordField tp = new JPasswordField(10);
        tp.setFont(f);
        add(tp);
        JButton bl = new JButton("Login");
        add(bl);
    }
}

```

O/P →

Enter name
Enter pass
Login

```

class FDemo{
    public static void main(String args){
        FDemo f = new FDemo();
        f.setVisible(true);
        f.setSize(500, 500);
        f.setLocation(100, 100);
        f.setDefaultCloseOperation(F.EXIT_ON_CLOSE);
    }
}

```

```

8) import javax.swing.*;
import java.awt.*;

class FDemo extends JFrame {
    FDemo() {
        setLayout(new FlowLayout());
        Font f = new Font("Arial Black", Font.BOLD, 50);
        JLabel un = new JLabel("Enter name");
        un.setFont(f);
        add(un);
        JTextField txl = new JTextField(10);
        txl.setFont(f);
        add(txl);
        JLabel up = new JLabel("Enter pass");
        up.setFont(f);
        add(un);
    }
}

```

Enter name
Enter pass
Login

```

class FDemo{
    public static void main(String args){
        FDemo f = new FDemo();
        f.setVisible(true);
        f.setSize(500, 500);
        f.setLocation(100, 100);
        f.setDefaultCloseOperation(F.EXIT_ON_CLOSE);
    }
}

```

```
7) import javax.swing.*;  
import java.awt.*;
```

```
class FDemo extends JFrame {  
FDemo(){ setLayout(new FlowLayout());
```

O/P →

Enter name

Enter pass

```
Font f = new Font("Arial Black", Font.BOLD, 20);
```

```
JLabel un = new JLabel("Enter name");  
un.setFont(f);  
add(un);
```

```
JTextField txl = new JTextField(10);  
txl.setFont(f);  
add(txl);
```

```
JLabel up = new JLabel("Enter pass");  
up.setFont(f);  
add(up);
```

```
JPasswordField tp = new JPasswordField(10);  
tp.setFont(f);  
add(tp);
```

```
JButton bl = new JButton("Login");  
add(bl);
```

```
class FDemo{  
public static void main(String args){  
FDemo f = new FDemo();  
f.setVisible(true);  
f.setSize(500, 500);  
f.setLocation(100, 100);  
f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);  
}
```

```
8) import javax.swing.*;  
import java.awt.*;
```

```
class FDemo extends JFrame {  
FDemo(){ setLayout(new FlowLayout());
```

```
Font f = new Font("Arial Black", Font.BOLD, 20);  
JLabel un = new JLabel("Enter name");  
un.setFont(f);  
add(un);
```

```
JTextField txl = new JTextField(10);  
txl.setFont(f);  
add(txl);
```

```
JLabel up = new JLabel("Enter pass");  
up.setFont(f);  
add(up);
```

```
class FDemo{  
public static void main(String args){  
FDemo f = new FDemo();  
f.setVisible(true);  
f.setSize(500, 500);  
f.setLocation(100, 100);  
f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);  
}
```

Lecture 10

```
JPasswordField txz = new JPasswordField(10);
txz.setFont(f);
add(txz);

JButton b1 = new JButton("Login");
b1.setFont(f);
add(b1);

3) import javax.swing.*;
import java.awt.*;

class FDemo extends JFrame {
    FDemo() {
        setLayout(null);
        Font f = new Font("Arial Black", Font.BOLD, 30);
        JLabel un = new JLabel("Enter name");
        un.setFont(f);
        add(un);

        JTextField tx1 = new JTextField(10);
        tx1.setFont(f);
        add(tx1);

        JLabel up = new JLabel("Enter Pass");
        up.setFont(f);
        add(up);

        JPasswordField tx2 = new JPasswordField(10);
        tx2.setFont(f);
        add(tx2);

        JButton b1 = new JButton("Login");
        b1.setFont(f);
        add(b1);

        Class FDemo {
            public static void main(String args) {
                FDemo f = new FDemo();
                f.setVisible(true);
                f.setSize(300, 300);
                f.setLocation(100, 100);
                f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
            }
        }
    }
}
```

```
3) import javax.swing.*;
import java.awt.*;

class FDemo extends JFrame {
    FDemo() {
        setLayout(null);
        Font f = new Font("Arial Black", Font.BOLD, 30);
        JLabel un = new JLabel("Enter name");
        un.setFont(f);
        add(un);

        JTextField tx1 = new JTextField(10);
        tx1.setFont(f);
        add(tx1);

        Class FDemo {
            public static void main(String args) {
                FDemo f = new FDemo();
                f.setVisible(true);
                f.setLocation(100, 100);
                f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
            }
        }
    }
}
```

```
3) class FDemo {
    FDemo() {
        f.setLocation(100, 100);
        f.setSize(300, 300);
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    }
}
```

10

2) import javax.swing.*;
 import java.awt.*;
 class FDemo extends JFrame
 {
 FDemo(){
 setLayout(null);
 Font f = new Font("Arial Black", Font.BOLD, 50);
 JLabel un = new JLabel("Enter name");
 un.setSize(350, 70);
 un.setFont(f);
 add(un);
 }
 JTextfield ob1 = new JTextField(" ");
 }
 class Demo {
 public static void main(String args){
 FDemo f = new FDemo();
 f.setVisible(true); f.setSize(500, 500);
 f.setLocation(100, 100);
 f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
 }
 }
 3) import javax.swing.*;
 import java.awt.*;
 class FDemo extends JFrame {
 FDemo(){
 setLayout(null);
 Font f = new Font("Arial Black", Font.BOLD, 50);
 JLabel un = new JLabel("Enter name");
 un.setSize(350, 70);
 un.setLocation(100, 100);
 un.setFont(f);
 add(un);
 }
 class Demo {
 public static void main(String args){
 FDemo f = new FDemo();
 f.setVisible(true); f.setSize(500, 500);
 f.setLocation(100, 100); f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
 }
 }

O/P → Enter name

Entered Name

```

4) import javax.swing.*;           o/p
import java.awt.*;
class FDemo extends JFrame {
    FDemo() {
        setLayout(null);
        Font f = new Font("Arial Black", Font.BOLD, 50);
        JLabel un = new JLabel ("Enter name");
        un.setSize(350,70);
        un.setLocation(100,100);
        un.setFont(f);
        add(un);
        JTextField tx1 = new JTextField(10);
        tx1.setSize(300,70);
        tx1.setLocation(450,100);
        tx1.setFont(f);
        add(tx1);
    }
}
class Demo10 { public static void main(String ar) {
    FDemo f = new FDemo(); f.setVisible(true);
    f.setSize(500,500); f.setLocation(100,100);
    f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
}}

```

```

5) import javax.swing.*;
import java.awt.*;
class FDemo extends JFrame {
    FDemo() {
        setLayout(null);
        Font f = new Font("Arial Black", Font.BOLD, 50);
        JLabel un = new JLabel ("Enter Name");
        un.setSize(350,70);
        un.setLocation(100,100);
        un.setFont(f);
        add(un);
        JTextField tx1 = new JTextField(10);
        tx1.setSize(300,70);
        tx1.setLocation(450,100);
        tx1.setFont(f);
        add(tx1);
    }
}

```

Enter name

Enter pass

tx1.setFont(f);
add(tx1);

JLabel up = new JLabel();
up.setSize(350,70);
up.setLocation(100,100);
up.setFont(f);
add(up);

class Demo10 { public static void main(String ar) {
 FDemo f = new FDemo(); f.setSize(500,500); f.setLocation(100,100); f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE); }}

6) import javax.swing.*;
import java.awt.*;

class FDemo extends JFrame {
 FDemo() {
 setLayout(null);
 Font f = new Font("Arial Black", Font.BOLD, 50);
 JLabel un = new JLabel ("Enter Name");
 un.setSize(350,70);
 un.setLocation(100,100);
 un.setFont(f);
 add(un);
 }
}

JTextField tx1 = new JTextField(10);
tx1.setSize(300,70);
tx1.setLocation(450,100);
tx1.setFont(f);
add(tx1);

JLabel up = new JLabel();
up.setSize(350,70);
up.setLocation(100,100);
up.setFont(f);
add(up);

JPasswordField tx2 = new JPasswordField(10);
tx2.setSize(300,70);
tx2.setLocation(450,100);
tx2.setFont(f);
add(tx2);

```

4) import javax.swing.*;
import java.awt.*;
class FDemo extends JFrame {
    FDemo() {
        setLayout(null);
        Font f = new Font("Arial Black", Font.BOLD, 150);
        JLabel un = new JLabel("Enter name");
        un.setSize(350, 70);
        un.setLocation(100, 100);
        un.setFont(f);
        add(un);
        JTextField tx1 = new JTextField(10);
        tx1.setSize(300, 70);
        tx1.setLocation(450, 100);
        tx1.setFont(f);
        add(tx1);
    }
}

```

```

class Demo10 {
    public static void main(String ar[]) {
        FDemo f = new FDemo();
        f.setVisible(true);
        f.setSize(500, 500);
        f.setLocation(100, 100);
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    }
}

```

```

5) import javax.swing.*;
import java.awt.*;
class FDemo extends JFrame {
    FDemo() {
        setLayout(null);
        Font f = new Font("Arial Black", Font.BOLD, 50);
        JLabel un = new JLabel("Enter name");
        un.setSize(350, 70);
        un.setLocation(100, 100);
        un.setFont(f);
        add(un);
        JTextField tx1 = new JTextField(10);
        tx1.setSize(500, 70);
        tx1.setLocation(450, 100);
        tx1.setFont(f);
        add(tx1);
    }
}

```

```

tx1.setFont(f);
add(tx1);
JLabel up = new JLabel("Enter pass");
up.setSize(350, 70);
up.setLocation(100, 200);
up.setFont(f);
add(up);

```

```
class Demo10 { public static void
```

```

FDemo f = new FDemo();
f.setSize(500, 500);
f.setLocation(100, 100);
f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
}

```

6) import javax.swing.*;

import java.awt.*;

class FDemo extends JFrame

FDemo() { setLayout(null); }

Font f = new Font("Arial Black",

JLabel un = new JLabel("Enter name");

un.setSize(350, 70);

un.setLocation(100, 100);

un.setFont(f);

add(un);

JTextField tx1 = new JTextField(10);

tx1.setSize(500, 70);

tx1.setLocation(450, 100);

tx1.setFont(f);

add(tx1);

JLabel up = new JLabel("Enter pass");

up.setSize(350, 70);

up.setLocation(100, 200);

up.setFont(f);

add(up);

JPasswordField tx2 = new JPasswordField(10);

tx2.setSize(500, 70);

```

        tx1.setFont(f);
        add(tx1);

JLabel up = new JLabel("Enter pass");
up.setSize(350, 70);
up.setLocation(100, 200);
up.setFont(f);
add(up);

}

class Demo1 public static void main(Starting g) {
FDemo f = new FDemo();
f.setVisible(true);
f.setSize(500, 500);
f.setLocation(100, 100);
f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
}

import javax.swing.*;
import java.awt.*;
class FDemo extends JFrame {
FDemo() {
setLayout(null);
Font f = new Font("Arial Black", Font.BOLD, 50);
JLabel un = new JLabel("Enter Name");
un.setSize(350, 70);
un.setLocation(100, 100);
un.setFont(f);
add(un);

JTextField tx1 = new JTextField("10");
tx1.setSize(500, 70);
tx1.setLocation(450, 100);
tx1.setFont(f);
add(tx1);

JLabel up = new JLabel("Enter Pass");
up.setSize(350, 70);
up.setLocation(100, 200);
up.setFont(f);
add(up);

JPasswordField tx2 = new JPasswordField("10");
tx2.setSize(500, 70);
tx2.setLocation(450, 200);
}
}

```

```
FDemo f = new FDemo(); f.setVisible(true);  
f.setSize(500, 500); f.setLocation(100, 100);  
f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
```

3

```
6) import javax.swing.*;  
import java.awt.*;  
class FDemo extends JFrame {  
    FDemo() { setLayout(null);  
        Font f = new Font("Arial Black", Font.BOLD, 50);  
        JLabel un = new JLabel ("Enter Name");  
        un.setSize(350, 70);  
        un.setLocation(100, 100);  
        un.setFont(f);  
        add(un);  
        JTextField tx1 = new JTextField(10);  
        tx1.setSize(350, 70);  
        tx1.setLocation(450, 100);  
        tx1.setFont(f);  
        add(tx1);  
        JLabel up = new JLabel ("Enter Pass");  
        up.setSize(350, 70);  
        up.setLocation(100, 200);  
        up.setFont(f);  
        add(up);  
        JPasswordField tx2 = new JPasswordField(10);  
        tx2.setSize(350, 70); tx2.setLocation(450, 200);
```

Enter Name

Enter Pass

```

tx2.setFont(f);
add(tx2);

3
class Demo10 { public static void main(String args) {
    FDemo f = new FDemo();
    f.setVisible(true); f.setSize(500,500);
    f.setLocation(100,100);
    f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
}

3
private void showFrame(JFrame frame) {
    frame.setVisible(true);
    frame.setLocation(100,100);
    frame.setSize(300,300);
}

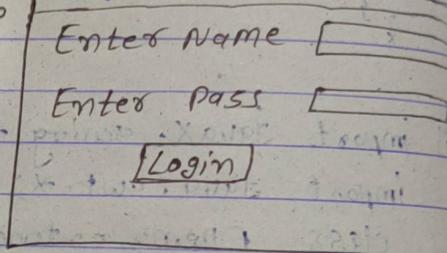
7) //JButton b1 = new JButton("Login");
import javax.swing.*; O/P
import java.awt.*;
class FDemo extends JFrame {
    FDemo() {
        setLayout(null);
        Font f = new Font("Arial Black",Font.BOLD,50);
        JLabel un = new JLabel("Enter Name");
        un.setSize(350,70);
        un.setLocation(100,100);
        un.setFont(f);
        add(un);

        JTextField tx1 = new JTextField(10);
        tx1.setSize(500,70);
        tx1.setLocation(450,100);
        tx1.setFont(f);
        add(tx1);

        JLabel up = new JLabel("Enter pass");
        up.setSize(350,70);
        up.setLocation(100,200);
        up.setFont(f);
        add(up);

        JPasswordField tx2 = new JPasswordField(10);
        tx2.setSize(500,70);
        tx2.setLocation(450,200);
    }
}

```



```
f.setVisible(true); f.setSize(500, 500);
f.setLocation(100, 100);
f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
```

7) JButton bt = new JButton("Login");

```
import javax.swing.*;
import java.awt.*;
class FDemo extends JFrame
{ FDemo()
    setLayout(null);
```

Enter Name

Enter Pass

[Login]

```
Font f = new Font("Arial Black", Font.BOLD, 50);
```

```
JLabel un = new JLabel("Enter Name");
```

```
un.setSize(350, 70);
```

```
un.setLocation(100, 100);
```

```
un.setFont(f);
```

```
add(un);
```

```
JTextField tx1 = new JTextField(10);
```

```
tx1.setSize(500, 70);
```

```
tx1.setLocation(450, 100);
```

```
tx1.setFont(f);
```

```
add(tx1);
```

```
JLabel up = new JLabel("Enter Pass");
```

```
up.setSize(350, 70);
```

```
up.setLocation(100, 200);
```

```
up.setFont(f);
```

```
add(up);
```

```
JPasswordField tx2 = new JPasswordField(10);
```

```
tx2.setSize(500, 70);
```

```
tx2.setLocation(450, 200);
```

```
tx2.setFont(f);
add(tx2);

JButton b1 = new JButton("Login");
b1.setSize(200, 70);
b1.setLocation(250, 350);
b1.setFont(f);
add(b1);

}

class Demo10 { public static void main(String args)
{
FDemo f = new FDemo();
f.setVisible(true);
f.setSize(1100, 500);
f.setLocation(200, 100);
f.setDefaultCloseOperation(f.EXIT_ON_CLOSE);
}}
```

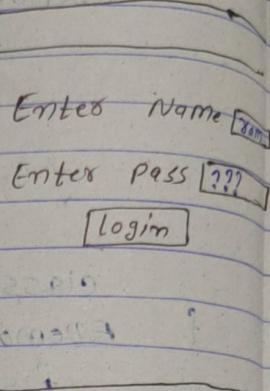
Lecture 11

```

1) JPasswordField tx2 = new JPasswordField(10);
tx2.setSize(500, 70);
tx2.setLocation(450, 200);
tx2.setFont(f);
tx2.setEchoChar('*');
add(tx2);
}

```

यदि इस चार्टे के किसी password filed में type करने पर ? या कुछ अप्राप्त तो इस setEchoChar() का use करते हैं। जिसके parameters में character pass करते हैं तो उसे खाली होता है।



FDemo() {

```

} setResizable(false);

```

यदि इस चार्टे के किसी output

window की size change नहीं होती।

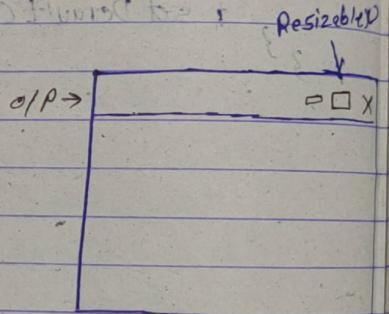
तो हम setResizable() का use

करते हैं। जिसके parameters में false

पास करते हैं। जिसके किसी output

window की size छापा ही fix

होती।



FDemo() { setTitle("Login Page"); }

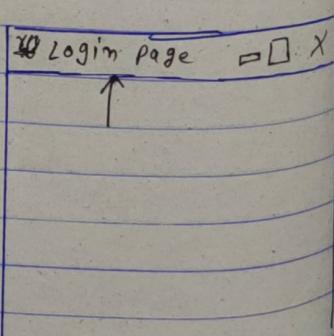
यदि इस window पर कोई title show

करना चाहते हैं। तो इस setTitle() का

use करते हैं। जिसके parameters

में परी Title होता है। उसे as a

String pass करते हैं।



Lecture 12, 13

1) import java.

import java.

class FDemo

{

Font f

JCheck

add

JCheck

33

class Demo

FDemo f

f.setSize

33 f.setDef

1) import java.

import java.

class FDe

FDemo {

Font f

JCheck

cb

JCheck

cb

33

class Demo

FDemo f

f.setSize

33 f.set

33

Lecture 12, 13

```
1) import javax.swing.*;  
import java.awt.*;  
class FDemo extends JFrame {  
    FDemo() { setLayout(new FlowLayout());  
        Font f = new Font ("Aerial Black", Font.BOLD, 50);  
        JCheckBox cb1 = new JCheckBox("Java");  
        cb1.setFont(f); add(cb1);  
        JCheckBox cb2 = new JCheckBox("PHP");  
        cb2.setFont(f); add(cb2);  
    }  
    class Demo1 { public static void main (String args){  
        FDemo f = new FDemo(); f.setVisible(true);  
        f.setSize(500,500); f.setLocation(100,100);  
        f.setDefaultCloseOperation(f.EXIT_ON_CLOSE);  
    }  
}
```

O/P →

Java PHP

```
1) import javax.swing.*;  
import java.awt.*;  
class FDemo extends JFrame {  
    FDemo() { setLayout(new FlowLayout());  
        Font f = new Font ("Aerial Black", Font.BOLD, 50);  
        JCheckBox cb1 = new JCheckBox ("male");  
        cb1.setFont(f); add(cb1);  
        JCheckBox cb2 = new JCheckBox ("Female");  
        cb2.setFont(f); add(cb2);  
    }  
}
```

```
class Demo1 { public static void main (String args){  
    FDemo f = new FDemo(); f.setVisible(true);  
    f.setSize(500,500); f.setLocation(100,100);  
    f.setDefaultCloseOperation(f.EXIT_ON_CLOSE);  
}
```

33

O/P →

male Female

```

2) import javax.swing.*;
import java.awt.*;
class FDemo extends JFrame {
    FDemo() {
        setLayout(new FlowLayout());
        Font f = new Font(" ", Font.BOLD, 16);
        JRadioButton r1 = new JRadioButton("Male");
        r1.setFont(f);
        add(r1);
        JRadioButton r2 = new JRadioButton("Female");
        r2.setFont(f);
        add(r2);
    }
    public static void main(String args) {
        FDemo f = new FDemo();
        f.setVisible(true);
        f.setSize(500, 500);
        f.setLocation(100, 100);
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    }
}

```

Q. यह R.Button का click करने पर दोनों R.Button का select होता है एवं उस वाले बटन की मिस्ट्री को घटाती है।
 selected एवं bg एवं bg.add(r1); का क्या फायदा है और इसकी मिस्ट्री को कैसे करें।
 selected एवं bg एवं bg.add(r1); का क्या फायदा है और इसकी मिस्ट्री को कैसे करें।

```

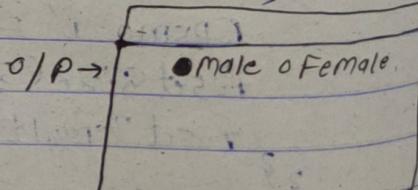
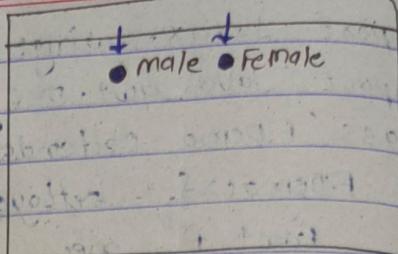
3) FDemo() {
    JButtonGroup bg = new JButtonGroup();
    JRadioButton r1 = new JRadioButton("Male");
    r1.setFont(f);
    bg.add(r1);
    add(r1);
}

```

```

3) JRadioButton r2 = new JRadioButton("Female");
r2.setFont(f);
bg.add(r2);
add(r2);
}

```



```

3) import
import
class
{
  FD
  F
  JButtonGroup bg = new JButtonGroup();
  bg.add(r1);
  bg.add(r2);
  add(bg);
}

```

1) import
import
class

FD
Font
JFrame

3) class

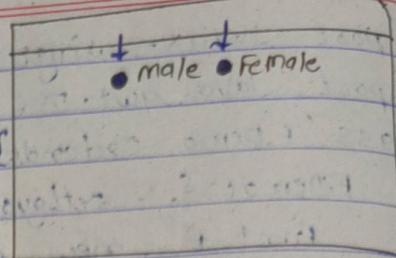
FD
fontSize
f.size

3) class

```

2) import javax.swing.*;
import java.awt.*;
class FDemo extends JFrame {
    FDemo() {
        setLayout(new FlowLayout());
        Font f = new Font(" ", Font.BOLD, 50);
        JRadioButton r1 = new JRadioButton("male");
        r1.setFont(f);
        add(r1);
        JRadioButton r2 = new JRadioButton("Female");
        r2.setFont(f);
        add(r2);
    }
}

```



```

3) import java.awt.*;
import java.*;
class FDemo extends JFrame {
    FDemo() {
        Font f = new Font(" ", Font.BOLD, 50);
        JButton r1 = new JRadioButton("male");
        r1.setFont(f);
        JButton r2 = new JRadioButton("Female");
        r2.setFont(f);
        add(r1);
        add(r2);
    }
}

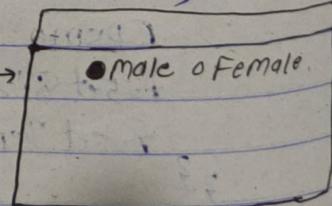
```

3) R.Button करने के लिए माना जाता है R.Button वाले चुने गए रेक्टिकल बटन को चुना जाता है और उसकी ओर क्लिक करने पर उसकी विलोपना होती है।

```

FDemo() {
    ButtonGroup bg = new ButtonGroup();
    JRadioButton r1 = new JRadioButton("male");
    r1.setFont(f);
    bg.add(r1);
    add(r1);
}

```



```

JRadioButton r2 = new JRadioButton("Female");
r2.setFont(f);
bg.add(r2);
add(r2);

```

```

4) import java.awt.*;
import java.*;
class FDemo extends JFrame {
    FDemo() {
        Font f = new Font(" ", Font.BOLD, 50);
        JRadioButton r1 = new JRadioButton("male");
        r1.setFont(f);
        JRadioButton r2 = new JRadioButton("Female");
        r2.setFont(f);
        add(r1);
        add(r2);
    }
}

```

3)

```

3) import javax.swing.*;
import java.awt.*;
class FDemo extends JFrame {
    FDemo() {
        setLayout(new FlowLayout());
        Font f = new Font("", Font.BOLD, 50);
        ButtonGroup bg = new ButtonGroup();
        JRadioButton r1 = new JRadioButton("male");
        r1.setFont(f); bg.add(r1); add(r1);
        JRadioButton r2 = new JRadioButton("female");
        r2.setFont(f); bg.add(r2); add(r2);
    }
}

class Demo13 {
    public static void main(String args) {
        FDemo f = new FDemo(); f.setVisible(true);
        f.setSize(500, 500); f.setLocation(100, 100);
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    }
}

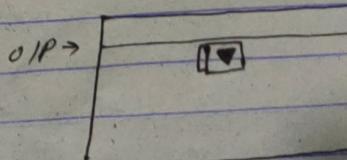
```

```

1) import javax.swing.*;
import java.awt.*;
class FDemo extends JFrame {
    FDemo() {
        setLayout(new FlowLayout());
        Font f = new Font("", Font.BOLD, 50);
        JComboBox cb1 = new JComboBox();
        add(cb1);
    }
}

class Demo12 {
    public static void main(String args) {
        FDemo f = new FDemo(); f.setVisible(true);
        f.setSize(500, 500); f.setLocation(100, 100);
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    }
}

```



Lecture 15

```

2) import javax.swing.*;
import java.awt.*;
class FDemo extends JFrame {
    FDemo() {
        setLayout(new FlowLayout());
        Font f = new Font("Times New Roman", Font.BOLD, 20);
        JComboBox cb1 = new JComboBox();
        cb1.addItem("Java");
        cb1.addItem("PHP");
        cb1.addItem("Python");
        cb1.addItem("CSS");
        cb1.addItem("HTML");
        cb1.setFont(f);
        add(cb1);
    }
}

```

3) class Demo13 {
 public static void main(String args) {
 FDemo f = new FDemo();
 f.setVisible(true);
 f.setSize(500, 500);
 f.setLocation(100, 100);
 f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
 }
}

4) यह एक जैविक एक ComboBox का एक सर्कारी है।
numbers 31 से 1 से loop का use कर सकते हैं।

FDemo() {

```

    JComboBox cb1 = new JComboBox();
    for (int i = 1; i <= 30; i++) {
        cb1.addItem(i);
    }
    cb1.setFont(f);
    add(cb1);
}

```

5) String type का Array से भी वना सकते हैं।

6) List का Array B वाला कर Array की
ComboBox का object को pass कर दें।

Lecture 16

FDemo() {

String s =

JCom

1) import javax.

import java.

class FDemo

FDemo() {

Font f

~~JList~~ St

JList c

cb1.

ade

3

class FD

public

FDen

f.setV

f.setL

3

2) यह एक

FDemo() {

JList

cb1.

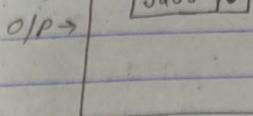
add

3

Lecture 16

FDemo()

```
String s = {"Java", "PHP", "HTML", "CSS", "Python"};  
JComboBox cb1 = new JComboBox(s);  
cb1.setFont(f);  
add(cb1);  
}
```



1) import javax.swing.*;

```
import java.awt.*;
```

```
class FDemo extends JFrame{
```

```
FDemo() { setLayout(new Layout());  
Font f = new Font("", Font.BOLD, 50);  
String s = {"Java", "PHP", "HTML", "CSS", "Python"};  
JList cb1 = new JList(s);
```

```
cb1.setFont(f);
```

```
add(cb1);
```

```
}
```

```
class FDemo16{
```

```
public static void main(String args[]){
```

```
FDemo f = new FDemo();
```

```
f.setVisible(true); f.setSize(500, 500);
```

```
f.setLocation(100, 100); f.setDefaultCloseOperation(f.EXIT_ON_CLOSE);
```

```
}
```

2) यदि एक प्रोग्राम में एक List वाला Item बनाना है तो कैसे करें

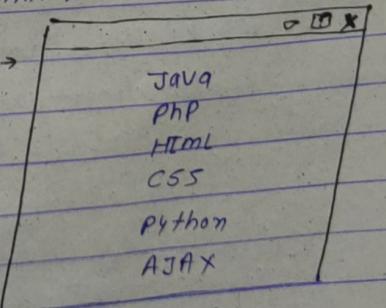
```
FDemo16{ String s = {"Java", "PHP", "HTML", "CSS", "Python", "AJAX"};
```

```
JList cb1 = new JList(s);
```

```
cb1.setFont(f);
```

```
add(cb1);
```

```
}
```



Lecture 17

3) यदि हम सारे के के 10 में से किसी 3 की तिकोनी के लिए
एक scroll bar आके तो उसके लिए क्या

`setVisibleRowCount(int)` का use कर सकते हैं।

```
FDemo1 {
    String s = {"Java", "PHP", "CSS", "HTML", "Python", "AJAX"};
    JList cb1 = new JList(s);
    cb1.setFont(f);
    cb1.setVisibleRowCount(3);
    add(new JScrollPane(cb1));
}
```

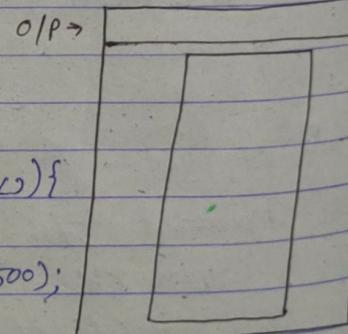
इसे Frame के add करते ही time एक class का
use करता होगा (JScrollPane)

- `add(new JScrollPane(cb1));`

Java
PHP
HTML

```
1) import java.awt.*;
import javax.swing.*;
class FDemo extends JFrame {
    FDemo() {
        setLayout(new FlowLayout());
        Font f = new Font("", Font.BOLD, 50);
        JTextArea ta = new JTextArea(10, 5);
        ta.setFont(f);
        add(ta);
    }
}
```

```
class Demo17 {
    public static void main(String args) {
        FDemo f = new FDemo();
        f.setVisible(true);
        f.setSize(500, 500);
        f.setLocation(100, 100);
    }
}
```



Lecture 18

1) import
import
class

FD

JT

class

f se

f se

3

1) import
import
class

FD

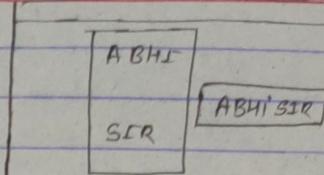
3
C

3

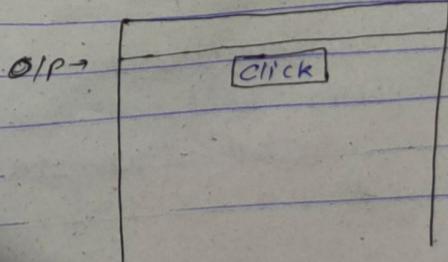
Text Field & Line change नहीं होता है
TextArea & Line change हो सकती है।

Lecture 18, 19

```
1) import java.awt.*;  
import javax.swing.*;  
class FDemo extends JFrame {  
    FDemo(){ setLayout(new FlowLayout());  
        Font f = new Font("", Font.BOLD, 50);  
        JTextArea ta = new JTextArea(5, 5);  
        ta.setFont(f);  
        add(ta);  
        JTextField t1 = new JTextField(10);  
        t1.setFont(f);  
        add(t1);  
    }  
    class Demo1{ public static void main(String args){  
        FDemo f = new FDemo();  
        f.setVisible(true); f.setSize(500, 500); f.setLocation(100, 100);  
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);  
    }  
}
```



```
1) import java.awt.*;  
import javax.swing.*;  
class FDemo extends JFrame {  
    FDemo(){ setLayout(new FlowLayout());  
        Font f = new Font("", Font.BOLD, 50);  
        JButton b1 = new JButton("Click");  
        add(b1);  
    }  
    class Demo1{ public static void main(String args){  
        FDemo f = new FDemo(); f.setVisible(true);  
        f.setSize(500, 500); f.setLocation(100, 100);  
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);  
    }  
}
```



```
ta. setFont(f);  
add(ta);
```

```
JTextField tx1 = new JTextField(10);  
tx1.setFont(f);  
add(tx1);
```

{ }
3

```
class Demo10 { public static void main(String args){  
FDemo f = new FDemo();  
f.setVisible(true); f.setSize(500,500); f.setLocation(100,100);  
f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
```

3

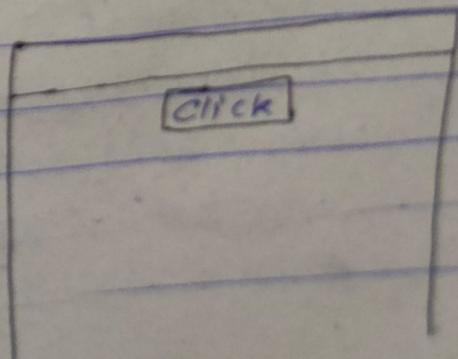
```
} import java.awt.*;  
import javax.swing.*;  
class FDemo extends JFrame{  
FDemo(){ setLayout(new FlowLayout());  
Font f = new Font(" ", Font.BOLD, 50);  
JTextField JButton b1 = new JButton("Click");  
add(b1);
```

3

```
class Demo11 { public static void main(String args){  
FDemo f = new FDemo(); f.setVisible(true);  
f.setSize(500,500); f.setLocation(100,100);  
f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
```

3

O/P →



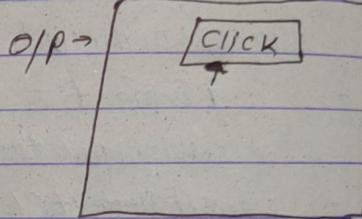
2) यादि एक फॉन्ट का फॉन्ट क्लास बना तो उसके लिए
Font class का setFont method का use करेंगे।

3) यादि एक वाक्तव्य है कि Button को click कर तो कृति operation
हो जाएगी तो Listener का use करना होगा।
लिस्टनर ActionListener को implement करना होगा।
उसके लिए उसकी method actionPerformed (ActionEvent)
को use करेंगे। इसका नाम FDemo हो जाएगा।
क्योंकि class FDemo is not abstract and does not override
abstract method actionPerformed (ActionEvent): fire Listener
को add करेंगे।

```
FDemo() {
    JButton b1 = new JButton ("click");
    setFont(f);
    add(b1);
}
```

```
b1.addActionListener (this);
```

3

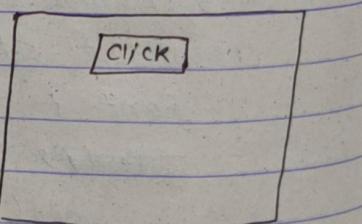


```
public void actionPerformed (ActionEvent e) { → softwares
    System.out.println("softwares"); } softwares
```

जब इस Button को Click करेंगे। Terminal में softwares आएगा। } public

4) import java.awt.*;

O/P →



```
import javax.swing.*;
import java.awt.event.*;
```

```
class FDemo extends JFrame implements ActionListener
{ FDemo() { setLayout(new FlowLayout());
    Font f = new Font ("", Font.BOLD, 50);
    JButton b1 = new JButton ("click");
    b1.setFont (f);
    add(b1); }
```

```
b1.addActionListener (this);
```

```
public void actionPerformed (ActionEvent e) {
    System.out.println ("softwares"); }
```

3

class
publ

1) impo
impot
impo

class

} publi

3
clas

pu

2) import
import
import

class

J

2) यदि एहाले किसी Font class का setFont Method का use करेंगे।

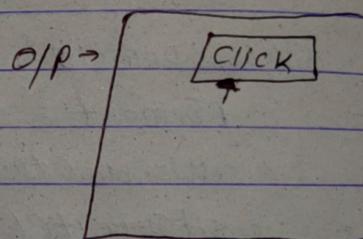
3] यदि एहाले किसी Button को Click करे तो कौन सी operation होती है? उसके लिए Listener का use करना होता है जिसके लिए ActionListener ~~is~~ implement करना होगा उसके बाद उसकी method actionPerformed (ActionEvent) को use करते हैं। ऐसा क्यों? क्योंकि class FDemo is not abstract and does not override abstract method actionPerformed (ActionEvent). फिर Listener को add करते हैं।

```
FDemo() {
    JButton b1 = new JButton ("click");
```

```
    setfont(f);
    add(b1);
```

```
b1.addActionListener (this);
```

3



```
public void actionPerformed (ActionEvent e) { → softwaves
    System.out.println("softwaves");
}
```

जैसे कि एहाले Button को Click करते हैं। Terminal में softwaves आयेगा।

```
import java.awt.*;
```

```
import javax.swing.*;
```

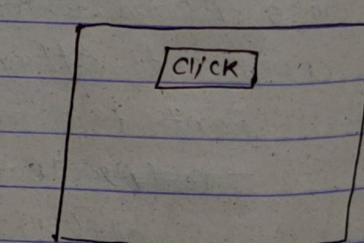
```
import java.awt.event.*;
```

```
class FDemo extends JFrame implements ActionListener
{ FDemo() { setLayout(new FlowLayout());
    Font f = new Font ("", Font.BOLD, 50);
```

```
    JButton b1 = new JButton ("click");
    b1.setFont (f);
    add(b1);
```

```
b1.addActionListener (this);
```

```
public void actionPerformed (ActionEvent e) {
    System.out.println("softwaves");
}
```



} pub

3

Clo

P

3 3

2) import
import

import

class

J

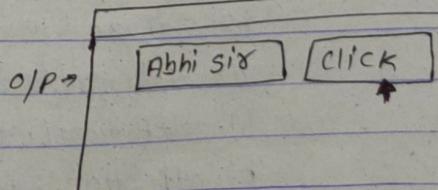
Lecture 20

```
class Demo19 {  
    public static void main (String args) {  
        FDemo f = new FDemo();  
        f.setVisible(true);  
        f.setSize(500,500); f.setLocation(100,100);  
        f.setDefaultCloseOperation(F.EXIT_ON_CLOSE);  
    }  
}
```

```
1) import javax.swing.*;  
import java.awt.*;  
import java.awt.event.*;  
class FDemo extends JFrame implements ActionListener {  
    FDemo() {  
        setLayout(new FlowLayout());  
        Font f = new Font("", Font.BOLD, 50); O/P → Error.  
        JTextField tx1 = new JTextField(5); can't find  
        tx1.setFont(f); add(tx1); symbol  
        JButton b1 = new JButton("click"); variable  
        b1.setFont(f); add(b1); tx1  
        b1.addActionListener(this);  
    }  
    public void actionPerformed(ActionEvent e) {  
        tx1.setText("Abhi sir");  
    }  
}
```

```
2) class Demo19 {  
    public static void main (String args) {  
        FDemo f = new FDemo();  
        f.setVisible(true); f.setSize(500,500); f.setLocation(100,100);  
        f.setDefaultCloseOperation(F.EXIT_ON_CLOSE);  
    }  
}
```

```
2) import javax.swing.*;  
import java.awt.*;  
import java.awt.event.*;  
class FDemo extends JFrame implements ActionListener {  
    JTextField tx1;  
    FDemo() {  
        setLayout(new FlowLayout());  
    }  
}
```



Lecture 20

```
class Demo19 {  
    public static void main (String ac) {  
        FDemo f = new FDemo();  
        f.setVisible(true);  
        f.setSize(500,500); f.setLocation(100,100);  
        f.setDefaultCloseOperation(F.EXIT_ON_CLOSE);  
    }  
}
```

1) import javax.swing.*;
import java.awt.*;
import java.awt.event.*;

Class FDemo extends JFrame implements ActionListener {
 FDemo() { setLayout(new FlowLayout());

Font f = new Font("", Font.BOLD, 50); O/P → Error.

JTextField tx1 = new JTextField(5); can't find
tx1.setFont(f); add(tx1); symbol

JButton b1 = new JButton("click"); variable
b1.setFont(f); add(b1); tx1

b1.addActionListener(this);

} public void actionPerformed(ActionEvent e){
 tx1.setText("Abhi sir");

3) class Demo19 {

public static void main (String ac) {

FDemo f = new FDemo();

f.setVisible(true); f.setSize(500,500); f.setLocation(100,100);

f.setDefaultCloseOperation(F.EXIT_ON_CLOSE);

3)

2) import javax.swing.*;

import java.awt.*;

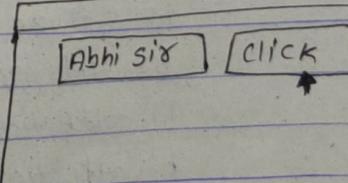
import java.awt.event.*;

class FDemo extends JFrame implements ActionListener {

JTextField tx1;

FDemo() { setLayout(new FlowLayout());

O/P →



Lecture 21

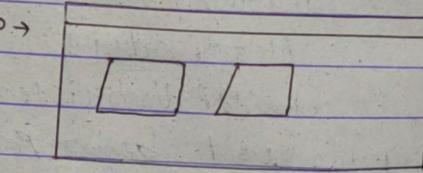
```
Font f = new Font("", Font.BOLD, 50);
tx1 = new JTextField(5);
tx1.setFont(f); add(tx1);
JButton b1 = new JButton("click");
b1.setFont(f); add(b1);
b1.addActionListener(this);

public void actionPerformed(ActionEvent e) {
    tx1.setText("Abhishek");
}
```

```
class Demo20 {
    static public void main(String args) {
        FDemo f = new FDemo();
        f.setVisible(true); f.setSize(500, 500);
        f.setLocation(100, 100);
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    }
}
```

```
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;
class FDemo extends JFrame implements ActionListener {
    JButton b1, b2;
    FDemo() {
        setLayout(null);
        Font f = new Font("", Font.BOLD, 50);
        b1 = new JButton();
        b1.setSize(100, 100); b1.setLocation(100, 100);
        b1.setFont(f); add(b1);
        b2 = new JButton();
        b2.setSize(100, 100); b2.setLocation(250, 100);
        b2.setFont(f); add(b2);
        b1.addActionListener(this);
        b2.addActionListener(this);
    }
}
```

```
public void actionPerformed(ActionEvent e) { }
```



Lecture 21

class

static

FD

f.setFont

3

b1

b2

p4

Lecture 21

1) import

import

import

class

F

ad

b1

tx2

3

class

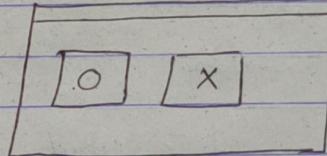
public

Lecture 22

```
class Demo21 {  
    static public void main(String args){  
        FDemo f = new FDemo(); f.setVisible(true);  
        f.setSize(400,400); f.setLocation(100,100);  
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);  
    }  
}
```

यदि इस बाउन्डे का JButton b1 को click कर देते हैं तो अपने बीज
b2 को कर देते हैं X बाये।

```
public void actionPerformed(ActionEvent e){  
    if(e.getSource() == b1) { tx1.setText("O"); }  
    if(e.getSource() == b2) { tx2.setText("X"); }  
}
```



Lecture 22

```
import java.awt.*;  
import javax.swing.*;  
import java.awt.event.*;  
class FDemo extends JFrame implements ActionListener {  
    JTextField tx1, tx2, tx3;  
    JButton b1;  
    FDemo() {  
        setLayout(new FlowLayout());  
        Font f = new Font(" ", Font.BOLD, 50);  
        tx1 = new JTextField(5); add(tx1);  
        tx1.setFont(f);  
        tx2 = new JTextField(5); tx2.setFont(f);  
        add(tx2);  
    }  
}
```

```
b1 = new JButton("click"); b1.setFont(f); add(b1);  
tx3 = new JTextField(5); tx3.setFont(f); add(tx3);  
b1.addActionListener(ActionEvent e){  
    tx3.setText(e.getActionCommand());  
}
```

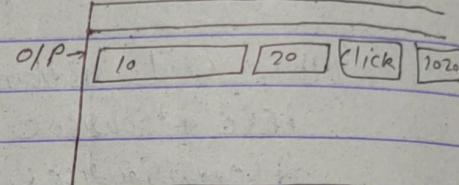
```
class Demo22 {  
    public static void main(String args){  
    }
```

FDemo f = new FDemo(); f.setVisible(true); f.setSize(500, 500);
 f.setLocation(100, 100); f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

3
 2 यदि हम कहा तो अ first textField में 10 second में 20
 Input करके Button Click करने पर 3rd textField में 30
 जिनी no. का sum आये इसके लिए!

```

public void actionPerformed(ActionEvent e) {
    String s1 = tx1.getText();
    String s2 = tx2.getText();
    tx3.setText(s1 + s2);
}
    
```



3 दो string का जो 25 वाला है उसका concatenation करना है।
 इसलिए

```

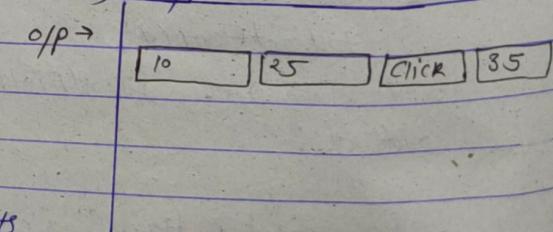
public void actionPerformed(ActionEvent e) {
    String s1 = tx1.getText();
    String s2 = tx2.getText();
    int x = Integer.parseInt(s1);
    int y = Integer.parseInt(s2);
    int sum = x + y;
    tx3.setText(sum);
}
    
```

o/p → Error!
 incompatible type
 int cannot be converted to
 String.

इसलिए tx3.setText(" "+sum); o/p →

```

3) import javax.swing.*;
import java.awt.*;
import java.awt.event.*;
class FDemo extends JFrame implements
JTextFieldListener, ActionListener
JButton b1;
    
```



```

FDemo() {
    setLayout(new FlowLayout());
    Font f = new Font("", Font.BOLD, 50);
    tx1 = new JTextField(5);
    tx1.setFont(f);
    add(tx1);
}
    
```

`setVisible(true); f.setSize(500,500);`

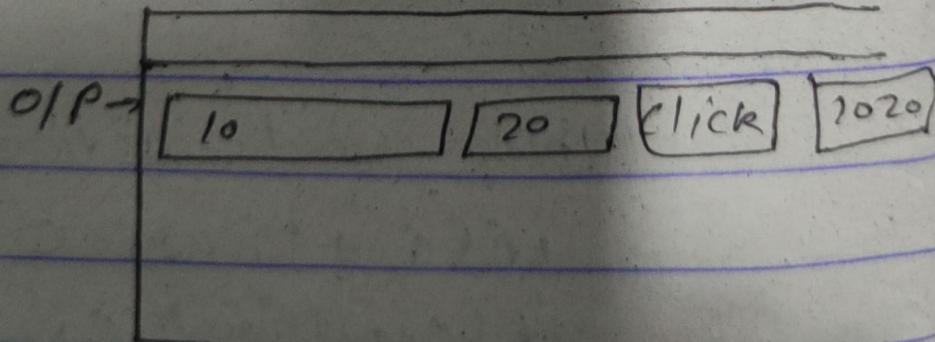
`faultCloseOperation(f.EXIT_ON_CLOSE);`

`1st 10 0.91 second 1.20`

`3rd textfield 1.31`

`10 20 31`

`(Action Evente) {`



`31 Concatenat 21 21`

`formed (Action Evente)`

```
tx2 = new JTextField(5); tx2.setFont(f); add(tx2);
b1 = new JButton("click"); b1.setFont(f); add(b1);
```

```
tx3 = new JTextField(5); tx3.setFont(f); add(tx3);
```

```
b1.addActionListener(this);
```

3

```
public void actionPerformed(ActionEvent e) {
```

```
String s1 = tx1.getText();
```

```
String s2 = tx2.getText();
```

```
int x = Integer.parseInt(s1);
```

```
int y = Integer.parseInt(s2);
```

```
int sum = x+y;
```

```
tx3.setText(" "+sum);
```

3

```
class Demo22 { public static void main(String args) {
```

```
FDemo f = new FDemo(); f.setVisible(true);
```

```
f.setSize(700, 700); f.setLocation(100, 100);
```

```
f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
```

3

~~2500~~
~~1000~~

```
t2 = new JTextField(5); t2.setFont(f); add(t2);
b1 = new JButton("click"); b1.setFont(f); add(b1);
```

```
t3 = new JTextField(5); t3.setFont(f); add(t3);
b1.addActionListener(this);
```

3

```
public void actionPerformed(ActionEvent e){
    String s1 = t1.getText();
    String s2 = t2.getText();
    int x = Integer.parseInt(s1);
    int y = Integer.parseInt(s2);
    int sum = x+y;
    t3.setText(" "+sum);
```

3

```
class Demo22 {
    public static void main(String args) {
        FDemo f = new FDemo(); f.setVisible(true);
        f.setSize(700, 700); f.setLocation(100, 100);
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    }
}
```

3

Lecture 23 (JLC), 24

```
1) import javax.swing.*;  
import java.awt.*;  
import java.awt.event.*;  
class FDemo extends JFrame implements ActionListener {  
    JTextField t1; int K = 0, x, y, w, h;  
    JButton b[] = new JButton[20];  
    FDemo() { setLayout(null);  
        Font f = new Font("", Font.BOLD, 50);  
        x = 0; y = 100; w = 100; h = 100;
```

```
    for (int i = 1; i <= 5; i++) {  
        for (int j = 1; j <= 4; j++) {  
            b[K] = new JButton();  
            b[K].setSize(w, h);  
            b[K].setLocation(x, y);  
            add[b[K]]; x = x + 100; K++;  
        }  
        y += 100; x = 0;  
    }
```

```
    public void actionPerformed(ActionEvent e) {}
```

```
2) class Demo23 { public static void main(String args) {  
    FDemo f = new FDemo(); f.setVisible(true);  
    f.setSize(420, 650);  
    f.setLocation(100, 100);  
    f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);  
}
```

अलॉट नहीं करता है। लेकिन अगर उसे लेबल
different रखा जाता है। तो लेबल करता है।

```
3) FDemo() {  
    //  
    b[0].setLabel("B");  
}
```

```
3) FDemo() {  
    b[0];  
    b[1];  
    b[2];  
    b[3];  
}
```

क्योंकि button तक
Font size फै

```
4) FDemo() {  
    for (i = 1; i <= 5; i++) {  
        b[K] = new JButton();  
        b[K].setSize(100, 50);  
        b[K].setLocation(100 * i, 100);  
        add[b[K]];  
    }  
    x = 0; y = 100;
```

लेबल करता है।

FDemo()

```
b[8].set  
b[9].set  
b[10].set  
b[11].set
```

3) FDemo{
 b[0].setLabel("B");
 b[1].setLabel("C");
 b[2].setLabel("1/x");
 b[3].setLabel("sqrt");
 }

O/P →

B	C	$1/x$	sqrt

जबकि button पर font size small है इसलिए loop में
 font size का set कर देंगे

4) FDemo{
 for(int i=1; i<=5; i++){
 for(int j=1; j<=4; j++){
 b[K] = new JButton();
 b[K].setSize(w, h);
 b[K].setLocation(x, y);
 b[K].setFont(f);
 add(b[K]); K++; x=x+100;
 }
 x=0;
 y+=100;
 }

O/P →

B	C	$1/x$	sqrt

5) वाकी कि button पर ना label set करना है इसलिए

FDemo{ //—
//—
 b[4].setLabel("7");
 b[5].setLabel("8");
 b[6].setLabel("9");
 b[7].setLabel("1");
 b[8].setLabel("4");
 b[9].setLabel("5");
 b[10].setLabel("6");
 b[11].setLabel("*");

उपरोक्त
label

3) FDemo() {
 b[0].setLabel("B");
 b[1].setLabel("C");
 b[2].setLabel("1/x");
 b[3].setLabel("sqrt");
 }

O/P →

B	C	1/x	sqrt

क्योंकि button के font size small हैं इसलिए एट लूप H.
 font size कि set कर देंगे

4) FDemo() {
 for(int i=1; i<=5; i++){
 for(int j=1; j<=4; j++){
 b[K] = new JButton();
 b[K].setSize(w, h);
 b[K].setLocation(x, y);
 b[K].setFont(f);
 add(b[K]); K++; x=x+100;
 }
 x=0;
 y+=100;
 }
 }

O/P →

B	C	1/x	sqrt

5) वाकी के button के a label set करना है इसलिए

FDemo() { //
 //
 b[4].setLabel("7");
 b[5].setLabel("8");
 b[6].setLabel("9");
 b[7].setLabel("1");
 b[8].setLabel("4");
 b[9].setLabel("5");
 b[10].setLabel("6");
 b[11].setLabel("x");

Label

3) FDemo() {
 b[0].setLabel("B");
 b[1].setLabel("C");
 b[2].setLabel("1/x");
 b[3].setLabel("sqrt");
 }

O/P →

B	C	$1/x$	sqrt

कॉडीनी button एवं Font size small है। इसलिए एहं Loop नहीं
 Font size को set कर देंगे

4) FDemo() {
 for(int i=1; i<=5; i++) {
 for(int j=1; j<=4; j++) {
 b[K] = new JButton();
 b[K].setSize(w, h);
 b[K].setLocation(x, y);
 b[K].setFont(f);
 add(b[K]); K++; x=x+100;
 }
 x=0;
 y+=100;
 }
}

O/P →

B	C	$1/x$	sqrt

5) बाकी 2 button एवं 2 label set करना है इसलिए

FDemo() { //
 //
 b[4].setLabel("7");
 b[5].setLabel("8");
 b[6].setLabel("9");
 b[7].setLabel("1");
 b[8].setLabel("4");
 b[9].setLabel("5");
 b[10].setLabel("6");
 b[11].setLabel("*");

Label

b[12].setLabel("1");

b[13].setLabel("2");

b[14].setLabel("3");

b[15].setLabel("-");

o/p →

B

C

Y₂

Sqr1

7

8

9

/

b[16].setLabel("0");

b[17].setLabel("", "");

b[18].setLabel("= ");

b[19].setLabel("+");

4

5

6

*

1

2

3

-

0

.

=

+

6] अब एक TextField add करेंगे।

F Demo() { // =

tx1 = new JTextField();

tx1.setSize(400, 100);

tx1.setLocation(0, 0);

tx1.setFont(f);

add(tx1);

o/p →

7896

// =

7] अब एक Text Field का type करने के लिए text left

से straight होता है और साथ ही एक Right होता है।

इसके लिए एक Alignment का set करना पड़ता है।

F Demo() { // =

tx1 = new JTextField(); o/p →

tx1.setSize(400, 100);

tx1.setLocation(0, 0);

tx1.setFont(f);

tx1.setHorizontalAlignment

(JTextField.Right);

add(tx1);

7896

Lecture 25

1) अब हम बातें करेंगे Button का click करने की Text Field का आपे इसके लिए है। Action Listener का use करना होगा।

FDemo() { // =

```

for(int i=1; i<=5; i++)
{
    for(int j=1; j<=4; j++)
    {
        b[k] = new JButton();
        b[k].setSize(w,h);
        b[k].setLocation(p,q);
        b[k].setFont(f);
        add(b[k]);
        b[k].addActionListener(this);
        k++;
    }
    x=x+100;
}
x=0; y+=100;
}
// =
// =

```

B	C	X	start
7	8	9	/
*			
4	5	6	*
8	2	3	-
0	.	=	+

public void actionPerformed(ActionEvent e){

 JButton b1 = (JButton)e.getSource();

}

// क्योंकि e.getSource object Return करता है।

// नी ही Button का store करने के लिए Typecast
// करता होगा।

public void actionPerformed(ActionEvent e){

 JButton b1 = (JButton)e.getSource();

// txl.setText((b1.getLabel()));

 String ss = b1.getLabel();

 txl.setText(ss);

}

Lecture 26, 27

वर्ति इन पाठी के 7 वें और 8 वें click करने के बाद आपको 7 और 8 वें field पर दिये रखते हैं।

`txl.getText() + bl.getLabel()` को concatenate करते हैं।

```
public void actionPerformed(ActionEvent e) {
    JButton bl = (JButton)e.getSource();
    String ss = txl.getText() + bl.getLabel();
    txl.setText(ss);
}
```

4GB RAM			
B	C	Y/X	Sqrt
7	8	9	/
4	5	*	
1	2	3	-
0	.	=	+

इन दोनों ने button पर click कर दिया है तो आपको
Like B, C, sqrt वाले दोनों दिया जाएगा।
इन दोनों ने B, C, Y/X, Sqrt वाले दिया जाएगा।
operation का।

97
1) public void actionPerformed(ActionEvent e){

```
if(e.getSource() == b[0]) { }
else if(e.getSource() == b[1]) { }
else if(e.getSource() == b[2]) { }
else if(e.getSource() == b[3]) { }
else if(e.getSource() == b[18]) { }
else { }
```

```
JButton bl = (JButton)e.getSource();
String ss = txl.getText() + bl.getLabel();
txl.setText(ss);
}
```

70*6			
B	C	Y/X	Sqrt
7	8	9	/
4	5	*	
1	2	3	-
0	.	=	+

Lecture 27, 28

1) क्योंकि इन पाठी के 7 वें click करते हैं।
आपको data clear की जानी हो तो उसके लिए
2nd button पर →

```
public void actionPerformed(ActionEvent e) {
    else if(e.getSource() == b[0]) {
        txl.setText("");
    }
}
```

B	C	Y/X	Sqrt
7	8	9	/
4	5	*	
1	2	3	-

B	C	Y/X	Sqrt
7	8	9	/
4	5	*	
1	2	3	-

2) क्योंकि इन पाठी के 8 वें click करते हैं।
पिछे से एक digit दर्ज हो जाते हो तो उसके लिए
1st button पर →

```
public void actionPerformed(ActionEvent e) {
    if(e.getSource() == b[0]) {
        String s1 = txl.getText();
        txl.setText(s1.substring(0, s1.length()-1));
    }
}
```

B	C	Y/X	Sqrt
7	8	9	/
4	5	*	
1	2	3	-

1) for sqrt button →

```
public void actionPerformed(ActionEvent e) {
    else if(e.getSource() == b[3]) {
        String s1 = txl.getText();
        double a = Double.parseDouble(s1);
        // txl.setText(Math.sqrt(a));
        txl.setText(" " + Math.sqrt(a));
    }
}
```

500			
B	C	Y/X	Sqrt
7	8	9	/
4	5	*	
1	2	3	-

मलेसपल्टी Text की String को store कराया
then उसी wrapped class की Help में
double को convert करा किया

math.sqrt() से sqrt निकला किया गया।
String को concat करा किया गया।

B	C	Y/X	Sqrt
0	.	=	+
4	5	*	
1	2	3	-

Lecture 26, 27

वर्षीय एक नाम और अब 7 का click करने के बाद वह 8 का click करते हैं तो 7 और 8 की ओर Field पर सिर्फ़ जमातें

`tcl.getText() + bl.getLabel()` की concatenate होती है।

```
public void actionPerformed(ActionEvent e){
    JButton b1 = (JButton)e.getSource();
    String ss = tcl.getText() + bl.getLabel();
    tcl.setText(ss);
}
```

468 C/C			
B	C	/X	Sqrt
7	8	9	/
4	5	*	*
1	2	3	-
0	.	=	+

एक नाम और अब 7 का click करने के बाद वह 8 का click करते हैं तो 7 का नाम और 8 का नाम जो आ रहा है। Like B, C, Sqrt वह इसे नहीं देता।

एक नाम वह B, C, /X, Sqrt है = display की दिक्कत दिया गया है।

operation दूर

27 `public void actionPerformed(ActionEvent e){`

```
if(e.getSource() == b[0]) { }
else if(e.getSource() == b[1]) { }
else if(e.getSource() == b[2]) { }
else if(e.getSource() == b[3]) { }
else if(e.getSource() == b[10]) { }
else { }
```

784 C/C			
B	C	/X	Sqrt
7	8	9	/
4	5	*	*
1	2	3	-
0	.	=	+

`JButton b1 = (JButton)e.getSource();`
`String ss = tcl.getText() + bl.getLabel();`
`tcl.setText(ss);`

}

Lecture 27, 28

वर्षीय एक नाम और C पर click करते हैं। उसका data clear हो जाता है तो उसके लिए 2nd button दिया गया है।

```
public void actionPerformed(ActionEvent e){
    else if(e.getSource() == b[0]){
        tcl.setText("");
    }
}
```

B	C	/X	Sqrt
7	8	9	/
4	5	*	*
0	.	=	+

2) वर्षीय एक नाम और B पर click करते हैं। उसके लिए 1st button दिया गया है। उसके लिए 1st button दिया गया है।

```
public void actionPerformed(ActionEvent e){
    if(e.getSource() == b[0]){
        String s1 = tcl.getText();
        tcl.setText(s1.substring(0, s1.length() - 1));
    }
}
```

B	C	/X	Sqrt
7	8	9	/
4	5	*	*
0	.	=	+

3) for sqrt button →

```
public void actionPerformed(ActionEvent e){
    else if(e.getSource() == b[3]){
        String s1 = tcl.getText();
        double a = Double.parseDouble(s1);
        //tcl.setText(Math.sqrt(a));
        tcl.setText("+" + Math.sqrt(a));
    }
}
```

निम्नपर्याप्त Text की String A store कराया तो उसे O wrapped class की Help में

```
double में convert करा किया  

math.sqrt() की sqrt फ़ंक्शन की show
```

B	C	/X	Sqrt
7	8	9	/
4	5	*	*
1	2	3	-

कराया। String B जाकर concatenate करा कर

B	C	/X	Sqrt
0	.	=	+
1	2	3	-
0	.	=	+

Lecture 26, 27

वर्षी एक नाम दे दो 7 02 click करने के लिए वह 8 02 click करे तो 7 02 8 दीजे Field पर दिये रखाते हैं
tx1.getText() + bl.getLabel() की concatenate करते हैं।

```
public void actionPerformed(ActionEvent e){
    JButton bl = (JButton)e.getSource();
    String ss = tx1.getText() + bl.getLabel();
    tx1.setText(ss);
}
```

460 C/S			
B	C	Y/X	Sqrt
7	8	9	1
4	5	6	*
1	2	3	-
0	.	=	+

एक नाम दे दो 7 02 click करे तो 8 02 के बीच आ जाए
like B, C, Y/X, sqrt दो लिए दोनों पाइए।
इस नाम दे दो B, C, Y/X, sqrt 7 02 = display की दिए दिए
operations की।

27) public void actionPerformed(ActionEvent e){

```
if(e.getSource() == b[0]) { }
else if(e.getSource() == b[1]) { }
else if(e.getSource() == b[2]) { }
else if(e.getSource() == b[3]) { }
else if(e.getSource() == b[4]) { }
else if(e.getSource() == b[5]) { }
else if(e.getSource() == b[6]) { }
else if(e.getSource() == b[7]) { }
else if(e.getSource() == b[8]) { }
else if(e.getSource() == b[9]) { }
```

```
JButton bl = (JButton)e.getSource();
String ss = tx1.getText() + bl.getLabel();
tx1.setText(ss);
```

3

Lecture 27, 28

यदि एक नाम दे दो 7 02 click करे तो 8 02 click

आज data clear दे दो तो उसके लिए
2nd button पर →

public void actionPerformed(ActionEvent e){

```
else if(e.getSource() == b[0]){
    tx1.setText("");}
```

}

7695			
B/C	C/V	Y/X	Sqrt
7	8	9	1
4	5	6	*
1	2	3	-
0	.	=	+

2) यदि एक नाम दे दो 7 02 click करे तो
पिछे की दो दिए दो दिए दो दिए
1st button पर →

public void actionPerformed(ActionEvent e){

```
if(e.getSource() == b[0]){
    String s1 = tx1.getText();}
```

```
tx1.setText(s1.substring(0, s1.length() - 1));
```

}

7695			
B/C	C/V	Y/X	Sqrt
7	8	9	1
4	5	6	*
1	2	3	-
0	.	=	+

1) for sqrt button →

public void actionPerformed(ActionEvent e){

```
else if(e.getSource() == b[3]) { }
```

String s1 = tx1.getText();

double a = Double.parseDouble(s1);

```
// tx1.setText(Math.sqrt(a));
```

```
tx1.setText(" " + Math.sqrt(a));
```

}

मैंनेपहले Text की String दी Store कराया

then उसे **Wrapper class की Help में**
double दी convert किया

math.sqrt() से sqrt मिलाकर show

कराया। String दी मात्र concat कर

560			
B	C	Y/X	Sqrt
7	8	9	1
4	5	6	*
1	2	3	-
0	.	=	+

Lecture 29, 30

2) now for 1/x button

```
public void actionPerformed(ActionEvent e) {
    else if (e.getSource() == b[2]) {
        String s1 = t1.getText();
        double d =
```

```
double a = Double.parseDouble(s1);
```

```
a = 1/a;
```

```
t1.setText("1/" + a);
```

```
}
```

परीक्षा करने के लिए 7*5-3 को 7+5-3 करना चाहिए।
 double a = convert करना और convert करना दूसरे रूप से convert करना।
 दूसरे रूप से convert करना दूसरे रूप से convert करना।
 करना दूसरे रूप से convert करना।

B	C	$\frac{1}{x}$	sqrt	.5
7	8	9	/	
4	5	6	*	
1	2	3	-	
0	•	=	+	

Lecture 30

1) class Demo25 {
 public static void main(String args) {
 String s1 = "7*5-3";
 System.out.println(s1);
 }

2) class Demo25 {
 public static void main(String args) {
 String s1 = "7*5-3";
 }

ScriptEngineManager sem = new ScriptEngineManager();
 ScriptEngine se = sem.getEngineByName("js");
 System.out.println(se.eval(s1));
 }

o/p → Error: Can't find symbol
 (import packages)

3) import javax.script.*;
 class Demo25 {
 public static void main(String args) {
 String s1 = "7*5-3";
 ScriptEngineManager sem = new ScriptEngineManager();
 ScriptEngine se = sem.getEngineByName("js");
 System.out.println(se.eval(s1));
 }
 }

o/p → checked exception

4) import javax.script.*;
 class Demo25 {
 public static void main(String args) {
 String s1 = "7*5-3";
 ScriptEngineManager sem = new ScriptEngineManager();
 ScriptEngine se = sem.getEngineByName("js");
 try {
 System.out.println(se.eval(s1));
 }
 catch (Exception e) {
 }
 }
 }

जब एक एक्सप्रेसन का उत्तर नहीं मिलता है तो इसका उत्तर बटन पर क्लिक किया जाता है। अगर एक एक्सप्रेसन का उत्तर मिलता है तो उसका उत्तर बटन पर क्लिक किया जाता है।

public void actionPerformed(ActionEvent e) {

else if (e.getSource() == b[12]) {
 String s1 = t1.getText();

ScriptEngineManager sem = new ScriptEngineManager();

ScriptEngine se = sem.getEngineByName("js");

try {
 System.out.print(se.eval(s1));
 t1.setText("7*5-3");

}
 catch (Exception e) {
 }

30

Vx button

void actionPerformed(ActionEvent e){

getSource() == b[0]) {

s1 = t1.getText();

double d -

d = Double.parseDouble(s1);

1/a;

setText("1/" + a);

String s1 static करना करना

convert करना अब concat

display करना

o/p 25

static void main(String ar){}

s1 = "7*5-3";

o/p 7*5-3

n.out.println(s1);

25

static void main(String ar){}

s1 = "7*5-3";

manager sem = new ScriptEngineManager();
se = sem.getEngineByName("js");
ut.println(se.eval(s1));o/p Error: Can't find symbol
(import packages)

3) import javax.script.*;
 class Demo25 {
 public static void main(String ar){
 String s1 = "7*5-3";
 ScriptEngineManager sem = new ScriptEngineManager();
 ScriptEngine se = sem.getEngineByName("js");
 System.out.println(se.eval(s1));
 } } o/p checkedException

4) import javax.script.*; o/p 32
 class Demo25 {
 public static void main(String ar){
 String s1 = "7*5-3";
 ScriptEngineManager sem = new ScriptEngineManager();
 ScriptEngine se = sem.getEngineByName("js");
 try{
 System.out.println(se.eval(s1));
 } catch(Exception e){ }
 } }

5) अब हमें & वाले एक = button वा click द्वारा उपरी expression को solve करना चाहिए।

public void actionPerformed(ActionEvent e){
 else if (e.getSource() == b[0]){
 String s1 = t1.getText();
 ScriptEngineManager sem = new ScriptEngineManager();
 ScriptEngine se = sem.getEngineByName("js");
 try{
 System.out.println(se.eval(s1));
 t2.setText("4" + se.eval(s1));
 } catch(Exception e){ }
 } }

Lecture 30, 31

```
import java.awt.*;
import javax.swing.*;
import java.awt.event.*;

public void
{
    if (e.get
    {
        St
        tnl. sc
    }
    else if (
    else-if (c
    St
    do
    t
}
else if
St
do
t
}
else if
St
Script
3Crip
try
?
cat
}
else {
JB
St
}
}

class FDemo extends JFrame implements ActionListener {
    JTextField tx1, x, y, w, h, K = 0;
    JButton b[] = new JButton[20];
    String data[] = {"B", "C", "YX", "sqrt", "7", "8", "9", "1",
                     "4", "5", "6", "*", "1", "2", "3", "-",
                     "0", ".", "=" , "+" , "?"};

    FDemo() {
        Font f = new Font(" ", Font.BOLD, 30);
        tx1 = new JTextField();
        tx1.setSize(400, 100);
        tx1.setLocation(0, 0);
        tx1.setFont(f);
        tx1.setHorizontalAlignment(JTextField.RIGHT);
        add(tx1);
        for (int i = 1; i <= 5; i++) {
            for (int j = 1; j <= 4; j++) {
                b[K] = new JButton(data[K]);
                b[K].setSize(w, h);
                b[K].setLocation(x, y);
                b[K].setFont(f);
                add(b[K]);
                b[K].addActionListener(this);
                K++;
            }
            x = x + 100;
        }
        n = 0;
        y = y + 100;
    }

    public void actionPerformed(ActionEvent e) {
        if (e.getSource() == tx1) {
            System.out.println("Text Field Clicked");
        }
        else if (e.getSource() == b[0]) {
            System.out.println("Button B Clicked");
        }
        else if (e.getSource() == b[1]) {
            System.out.println("Button C Clicked");
        }
        else if (e.getSource() == b[2]) {
            System.out.println("Button YX Clicked");
        }
        else if (e.getSource() == b[3]) {
            System.out.println("Button sqrt Clicked");
        }
        else if (e.getSource() == b[4]) {
            System.out.println("Button 7 Clicked");
        }
        else if (e.getSource() == b[5]) {
            System.out.println("Button 8 Clicked");
        }
        else if (e.getSource() == b[6]) {
            System.out.println("Button 9 Clicked");
        }
        else if (e.getSource() == b[7]) {
            System.out.println("Button 1 Clicked");
        }
        else if (e.getSource() == b[8]) {
            System.out.println("Button 4 Clicked");
        }
        else if (e.getSource() == b[9]) {
            System.out.println("Button 5 Clicked");
        }
        else if (e.getSource() == b[10]) {
            System.out.println("Button 6 Clicked");
        }
        else if (e.getSource() == b[11]) {
            System.out.println("Button * Clicked");
        }
        else if (e.getSource() == b[12]) {
            System.out.println("Button 1 Clicked");
        }
        else if (e.getSource() == b[13]) {
            System.out.println("Button 2 Clicked");
        }
        else if (e.getSource() == b[14]) {
            System.out.println("Button 3 Clicked");
        }
        else if (e.getSource() == b[15]) {
            System.out.println("Button - Clicked");
        }
        else if (e.getSource() == b[16]) {
            System.out.println("Button 0 Clicked");
        }
        else if (e.getSource() == b[17]) {
            System.out.println("Button . Clicked");
        }
        else if (e.getSource() == b[18]) {
            System.out.println("Button = Clicked");
        }
        else if (e.getSource() == b[19]) {
            System.out.println("Button + Clicked");
        }
        else if (e.getSource() == b[20]) {
            System.out.println("Button ? Clicked");
        }
    }
}
```

Lecture 30, 31

```
import java.awt.*;  
import javax.swing.*;  
import java.awt.event.*;  
  
public class FDemo extends JFrame implements ActionListener {  
    JTextField tx1, x, y, w, h, K = 0;  
    JButton b[] = new JButton[20];  
    String data[] = {"B", "C", "YX", "sqrt", "7", "8", "9", "1",  
                    "4", "5", "6", "*", "1", "2", "3", "-",  
                    "0", ".", "=" , "+", "g";  
  
    FDemo() {  
        Font f = new Font(" ", Font.BOLD, 30);  
        tx1 = new JTextField();  
        tx1.setSize(400, 100);  
        tx1.setLocation(0, 0);  
        tx1.setFont(f);  
        tx1.setHorizontalAlignment(JTextField.RIGHT);  
        add(tx1);  
        for (int i = 1; i <= 5; i++) {  
            for (int j = 1; j <= 4; j++) {  
                b[K] = new JButton(data[K]);  
                b[K].set setSize(w, h);  
                b[K].setLocation(x, y);  
                b[K].setFont(f);  
                add(b[K]);  
                b[K].addActionListener(this);  
                K++;  
            }  
            x = x + 100;  
        }  
        n = 0;  
        y = y + 100;  
    }  
}
```

x. swing.*;
x. script.*;
. awt.*;
. awt.event.*;

extends JFrame implements ActionListener {

txl, x, y, w, h, K = 0;

= new JButton[20];

J = {"B", "C", "VX", "sqrt", "7", "8", "9", "JU",
"4", "5", "6", "*", "1", "2", "3", "-",
"0", ".", "="}, "+", "g";

= new Font(" ", Font.BOLD, 30);

new JTextField();

setSize(400, 100);

setLocation(0, 0);

setFont(f);

HorizontalAlignment(JTextField.RIGHT);

txl);

= 1; i <= 5; i++) {

+ j = 1; j <= 4; j++) {

= new JButton('data[K]);

setSize(w, h);

setLocation(x, y);

setFont(st

id(b[K]));

```
public void actionPerformed(ActionEvent e)
{
    if (e.getSource() == b[0])
    {
        String s1 = tx1.getText();
        tx1.setText(s1.substring(0, s1.length() - 1));
    }
    else if (e.getSource() == b[1])
    {
        tx1.setText("");
    }
    else if (e.getSource() == b[2])
    {
        String s1 = tx1.getText();
        double a = Double.parseDouble(s1);
        a = 1/a;
        tx1.setText(" " + a);
    }
    else if (e.getSource() == b[3])
    {
        String s1 = tx1.getText();
        double a = Double.parseDouble(s1);
        tx1.setText(" " + Math.sqrt(a));
    }
    else if (e.getSource() == b[4])
    {
        String s1 = tx1.getText();
        ScriptEngineManager sem = new ScriptEngineManager();
        ScriptEngine se = sem.getEngineByName("js");
        try {
            tx1.setText(" " + se.eval(s1));
        }
        catch (Exception ex) {
        }
    }
    else {
        JButton b1 = (JButton)e.getSource();
        String ss = tx1.getText() + b1.getLabel();
        tx1.setText(ss);
    }
}
```