

Day09 (H1)

20150821

Button example
Math Class
Scanner Class
if-else if
switch
logical operators

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Simple GUI Example

(Graphical User Interface)

package

```
import javax.swing.*;
public class SwingTest {
    /**
     * @param args
     */
    public static void main(String[] args) {
        // TODO Auto-generated method stub

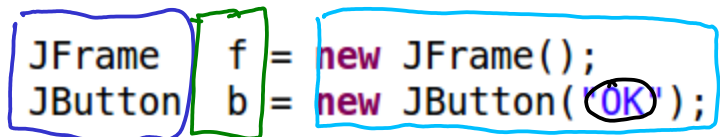
        JFrame f = new JFrame();
        JButton b = new JButton("OK");

        b.setBounds(10, 10, 200, 80);

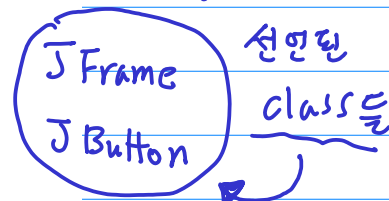
        f.add(b);

        f.setSize(400, 200);
        f.setLayout(null);
        f.setVisible(true);
    }
}
```

객체 참조 변수
f, b



javax.swing
package에서



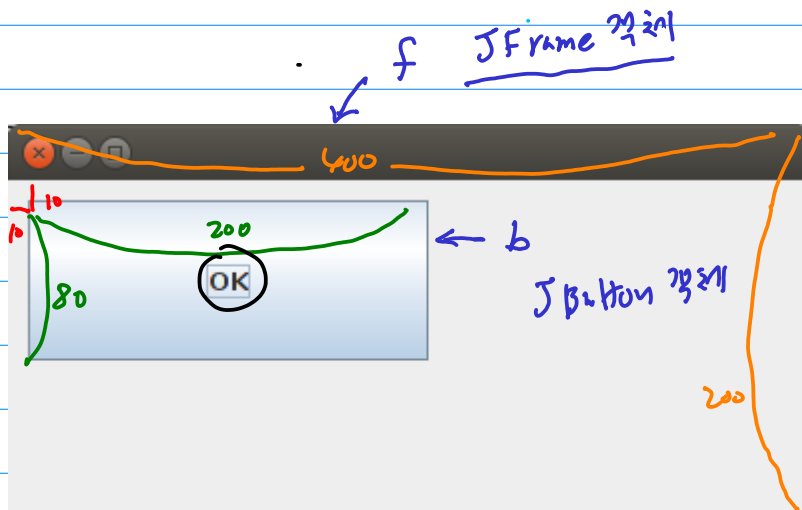
b.setBounds(10, 10, 200, 80);

f.add(b); 버튼의 위치 버튼의 크기

f.setSize(400, 200);

f.setLayout(null);

f.setVisible(true);



Package

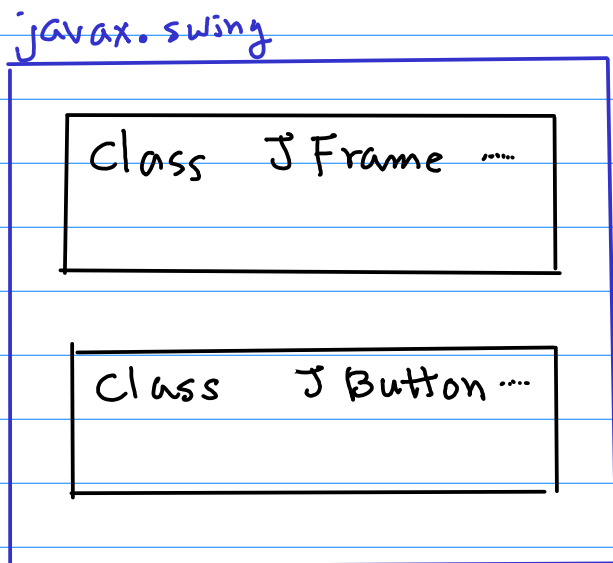
관련이 많은 class 들은 묶어둘 것



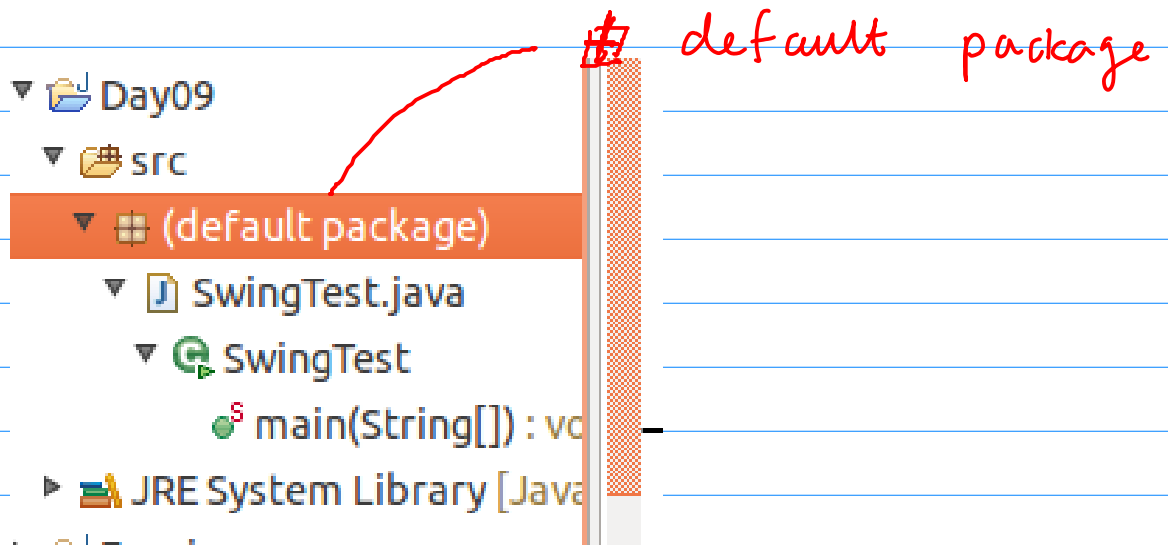
javax.swing . *

package 이름 javax.swing package 내에 있는
class 모두 다

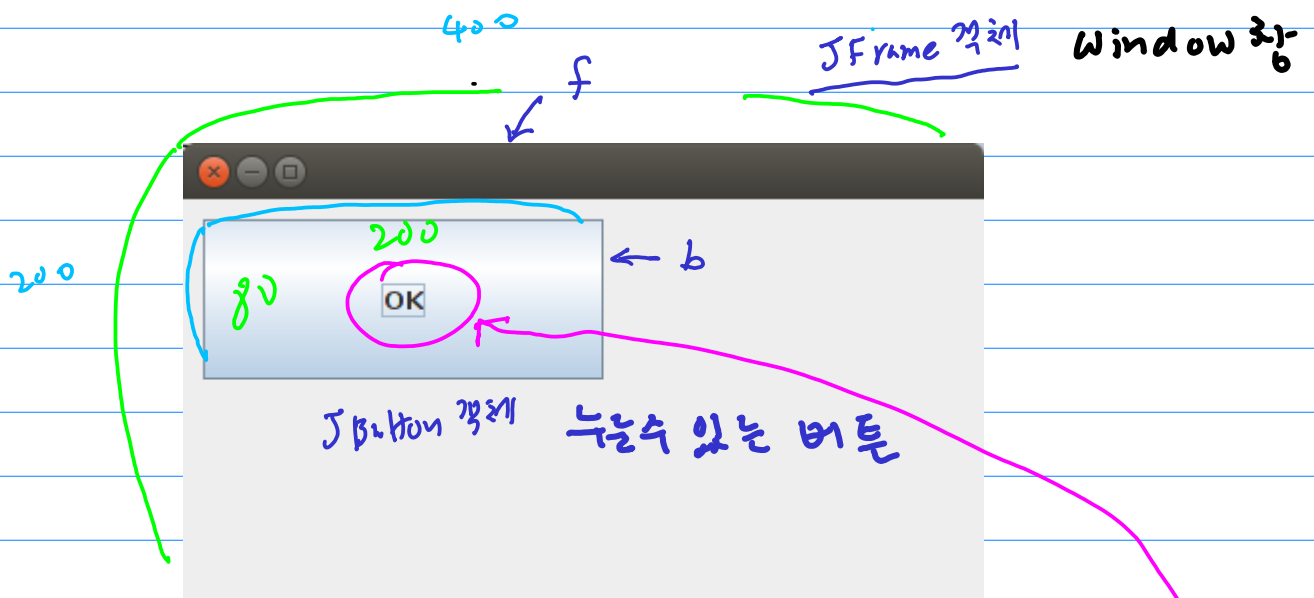
import 쓰기 위하여 붙여드립니다.



Default Package



JFrame 객체 및 JButton 객체



```
import javax.swing.*;  
public class SwingTest {  
    /**  
     * @param args  
     */  
    public static void main(String[] args) {  
        // TODO Auto-generated method stub  
        JFrame f = new JFrame();  
        JButton b = new JButton("OK");  
        b.setBounds(10, 10, 200, 80);  
        f.add( b );  
        f.setSize( 400, 200 );  
        f.setLayout(null);  
        f.setVisible(true);  
    }  
}
```

Math class

... 각 부분

Static

member data

Static

function

```
public class MathTest {
```

```
/**
```

```
 * @param args
```

```
 */
```

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

```
 // TODO Auto-generated method stub
```

```
System.out.println("e = " + Math.E);
```

```
System.out.println("pi = " + Math.PI);
```

```
double pi = Math.PI;
```

```
System.out.println("sin(0 ) = " + Math.sin(0) );
```

```
System.out.println("sin(pi/2 ) = " + Math.sin(pi/2) );
```

```
System.out.println("sin(pi ) = " + Math.sin(pi) );
```

```
System.out.println("sin(3pi/2) = " + Math.sin(3*pi/2) );
```

```
}
```

```
}
```

클래스 이름

Math.

Static field

(member data)

Static method

Static field

Static double PI

Static method

Static double sin(double ...)

객체나 상관이없음 → 객체 참조 변수 • X

클래스이름 • PI

Math.

sin()

Switch

```
char Grade = 'A';
```

```
switch (Grade) {  
    case 'A':  
        System.out.println("Grade= A");  
        break;  
  
    case 'B':  
        System.out.println("Grade= B");  
        break;  
  
    case 'C':  
        System.out.println("Grade= C");  
        break;  
  
    default:  
        System.out.println("Grade= F");  
        break;  
}
```

```
Grade = 'A';
```

```
switch (Grade) {  
  case 'A' : System.out.println("Grade= A");  
  case 'B' : System.out.println("Grade= B");  
  case 'C' : System.out.println("Grade= C");  
             System.out.println("Grade= Pass");  
    break;  
  
  default :  
    System.out.println("Grade= Fail");  
    break;  
}
```

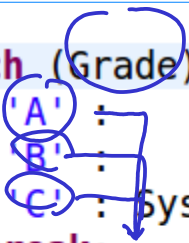
```
Grade = 'B';
```

```
switch (Grade) {  
  case 'A' : System.out.println("Grade= A");  
  case 'B' : System.out.println("Grade= B");  
  case 'C' : System.out.println("Grade= C");  
             System.out.println("Grade= Pass");  
    break;  
  
  default :  
    System.out.println("Grade= Fail");  
    break;  
}
```


OK

```
switch (Grade) {  
  case 'A':  
  case 'B':  
  case 'C': System.out.println("Grade= Pass");  
    break;  
  default:  
    System.out.println("Grade= Fail");  
    break;  
}
```

'A' 01314
'B' 01214
'C' 02 014



default

Input from keyboard

```
import java.util.Scanner;
```

package
이름

Class Scanner만
쓰러 줌.

```
Scanner k = new Scanner(System.in);
```

Stream
↓

```
char Grade;
```

```
System.out.println("Enter the Grade:");  
Grade = k.next().charAt(0);
```

k.next() string 읽어 오기

k.nextInt() 정수 읽어 오기

~~k.nextChar()~~ 문자 읽어 오지는 않음

k.next().charAt(0)

String을 읽어 온후

처음 위치에 0

있는 문자

package
import java.util.Scanner;
class

★ Scanner k = new Scanner(System.in);
char Grade;

```
System.out.println("Enter the Grade:");  
Grade = k.next().charAt(0);
```

k.next();

Enter ← String 데이터를 반환

String 반환
k.next().charAt(0)

Char 1개

중첩 if-else

> 90

```
if (Grade >= 90) {  
    System.out.println("Grade= A");  
}
```

```
else {
```

```
    if (Grade >= 80) {  
        System.out.println("Grade= B");  
    }
```

≥ 80

```
    else {
```

```
        if (Grade >= 70) {  
            System.out.println("Grade= C");  
        }
```

≥ 70

```
        else {
```

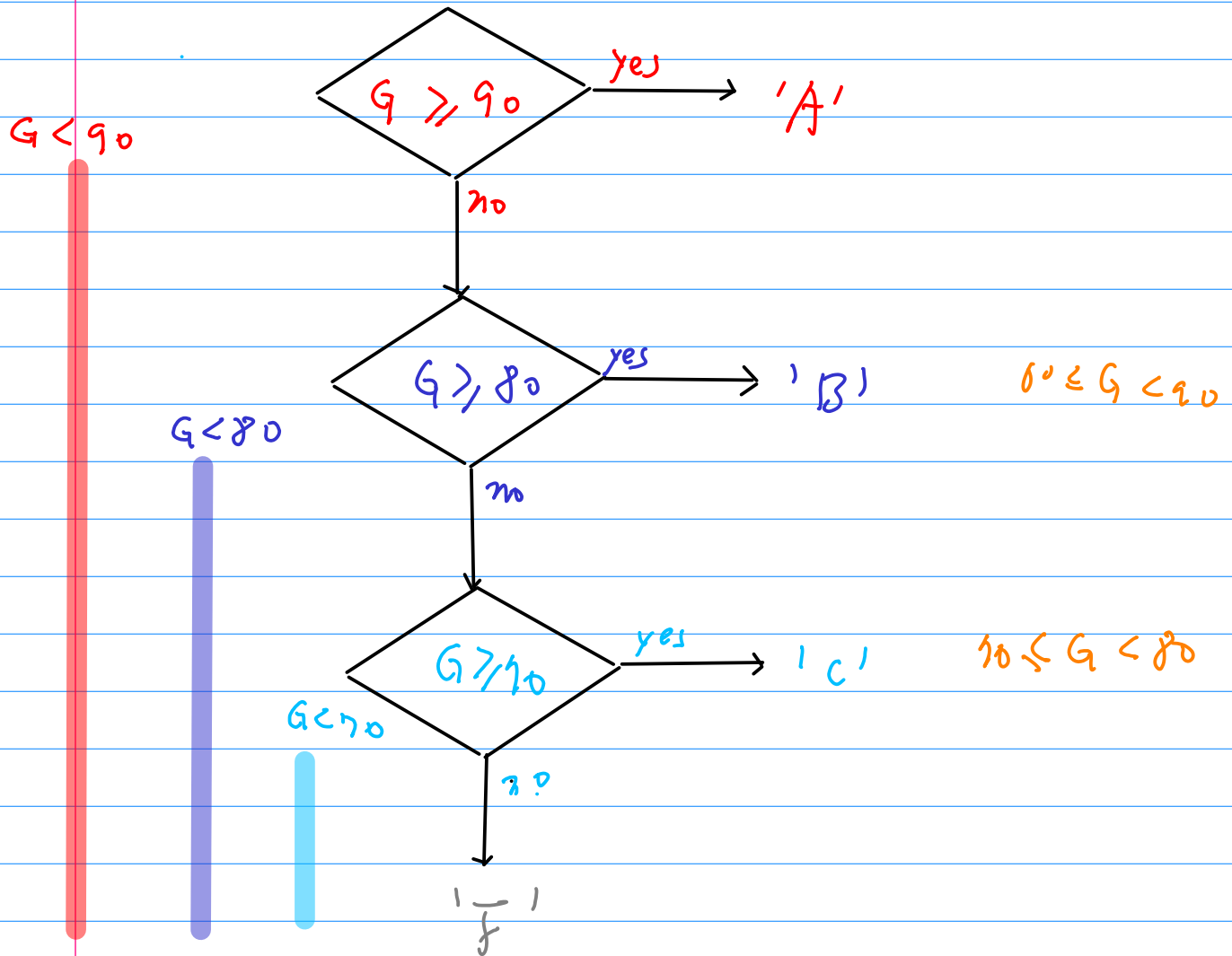
```
            System.out.println("Grade= F");  
        }
```

< 70

< 80

< 90

```
}
```



```

if (Grade >= 90) {
    System.out.println("Grade= A");
}
else {
    if (Grade >= 80) {
        System.out.println("Grade= B");
    }
    else {
        if (Grade >= 70) {
            System.out.println("Grade= C");
        }
        else {
            System.out.println("Grade= F");
        }
    }
}
  
```

```
if ((Grade >= 90))  
    System.out.println("Grade= A");  
if ((80 <= Grade) && (Grade < 90))  
    System.out.println("Grade= B");  
if ((70 <= Grade) && (Grade < 80))  
    System.out.println("Grade= C");  
if ((Grade < 70))  
    System.out.println("Grade= F");
```

$90 \leq G$

$80 \leq G < 90$

$70 \leq G < 80$

$G < 70$

Logical operator

AND

a	&&	b	
T	&&	T	T
T	&&	F	F
F	&&	T	F
F	&&	F	F

OR

a		b	
T		T	T
T		F	T
F		T	T
F		F	F



