

Conditional Execution

Exercises and Solutions

Software Development 1 (F27SA)

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Week 2, lecture 2

Exercise

Complete this program so that aubergines (which are 5-15cm, neither yellow nor red, and are not square) are correctly identified:

```
public class IfExercise {  
    public static void main(String[] args) {  
        double size = 10;  
        boolean yellow = false, red = false;  
        boolean square = false;  
        if(<add code here>)  
            System.out.println("Aubergine!");  
    }  
}
```

IfExercise.java

Exercise

Complete this program so that aubergines (which are 5-15cm, neither yellow nor red, and are not square) are correctly identified:

```
public class IfExercise {  
    public static void main(String[] args) {  
        double size = 10;  
        boolean yellow = false, red = false;  
        boolean square = false;  
        if(size>=5 && size<=15 && !(yellow || red)  
            && !square)  
            System.out.println("Aubergine!");  
    }  
}
```

IfExercise.java

Exercise

Complete this program so that aubergines (which are 5-15cm, neither yellow nor red, and are not square) are correctly identified:

```
public class IfExercise {  
    public static void main(String[] args) {  
        double size = 10;  
        boolean yellow = false, red = false;  
        boolean square = false;  
        if(size>=5 && size<=15 && !yellow && !red  
            && !square)  
            System.out.println("Aube  
    }  
}
```

IfExercise.java

Useful identity:
 $!(a \mid\mid b) == !a \&\& !b$

Exercise

Complete this program so that aubergines (which are 5-15cm, neither yellow nor red, and are not square) are correctly identified:

```
public class IfExercise {  
    public static void main(String[] args) {  
        double size = 10;  
        boolean yellow = false, red = false;  
        boolean square = false;  
        if(!(size<5 || size>15) && !yellow && !red  
            && !square)  
            System.out.println("Aubergine!");  
    }  
}
```

IfExercise.java

Quiz

What is the output of this program fragment?

```
boolean a = true;  
boolean b = false;  
System.out.println(a || b ? "Yes!" : "No!");
```

- A. Yes!
- B. No!
- C. No output is produced
- D. A compiler error is generated

Quiz

What is the output of this program fragment?

```
boolean a = true;  
boolean b = false;  
System.out.println(a || b ? "Yes!" : "No!");
```

A. Yes!

B. No!

C. No output is produced

D. A compiler error is generated

Quiz

What is the output of this program fragment?

```
int b = 10;  
b /= 2;  
if (b == 5)  
    System.out.println("Yes!");  
else  
    System.out.println("No!");
```

- A. Yes!
- B. No!
- C. No output is produced
- D. A compiler error is generated

Quiz

What is the output of this program fragment?

```
int b = 10;    Assignment (=) rather than equals (==)  
b /= 2;       leads to a type mismatch compiler error  
if (b = 5)  
    System.out.println("Yes!");  
else  
    System.out.println("No!");
```

- A. Yes!
- B. No!
- C. No output is produced
- D. A compiler error is generated**

Quiz

What is the output of this program fragment?

```
int b = 10;  
b /= 2;  
if (b == 5)  
    System.out.println("Yes!");  
    System.out.println("Yes!");  
else  
    System.out.println("No!");
```

- A. Yes! Yes!
- B. No!
- C. No output is produced
- D. A compiler error is generated

Quiz

What is the output of this program fragment?

```
int b = 10;  
b /= 2;  
if(b == 5)  
    System.out.println("Yes!");  
System.out.println("Yes!");  
else  
    System.out.println("No!");
```

There is no {...}, so the compiler reads it like this, finds an else with no if, and generates an error

- A. Yes! Yes!
- B. No!
- C. No output is produced
- D. A compiler error is generated**

Quiz

What is the output of this program fragment?

```
int b = 1;
switch(b) {
    case 1: System.out.println("Yes!");
    case 2: System.out.println("No!");
}
```

- A. Yes!
- B. No!
- C. A compiler error is generated
- D. None of the above

Quiz

What is the output of this program fragment?

```
int b = 1;
switch(b) {
    case 1: System.out.println("Yes!");
    case 2: System.out.println("No!");
}
```

Missing breaks after each case
cause it to output "Yes! No!"

- A. Yes!
- B. No!
- C. A compiler error is generated
- D. None of the above**