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MELBOURNE

# Workshop 3 (week4)

COMP90041 Programming  
and software development

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# basic git command

```
git add [file]  
git add *
```

```
git commit -m "[ Type in the commit message]"  
git push
```

```
git status
```

# if-else

```
if (Boolean_Expression)
    Yes_Statement
else
    No_Statement
```

# Switch

- **switch** statement chooses one of several cases based on an **int**, **short**, **byte**, or **char** value
- As of Java 7, it can also be a **String**: more useful
- Form:

```
switch (expr) {  
    case value1 :  
        statements...  
        break;  
    :  
    case valuen :  
        statements...  
        break;  
}
```

It stops executing when it reaches a **break** or the end of the **switch**

**Write a program that takes one command line argument**

**which should be N, S, E, or W**

**if the input is N,  
print out 0,  
if it is S,  
print out 90.  
if it is E  
print out 180.  
if it is W,  
print out 270.**

**output “wrong input”**



# Quiz

```
static String testmethod(int n)
{
    String r = "none";

    switch (n)
    {

        case 1: r = "one";
        case 2: r = "two";
        case 3: r = "three";

    }

    return r;
}
```

What string will return?

- A. one
- B. two
- C. three
- D. none

**testmethod(1)**

**testmethod(2)**

**testmethod(8)**



# While vs Do While

# While vs Do While

## while loop

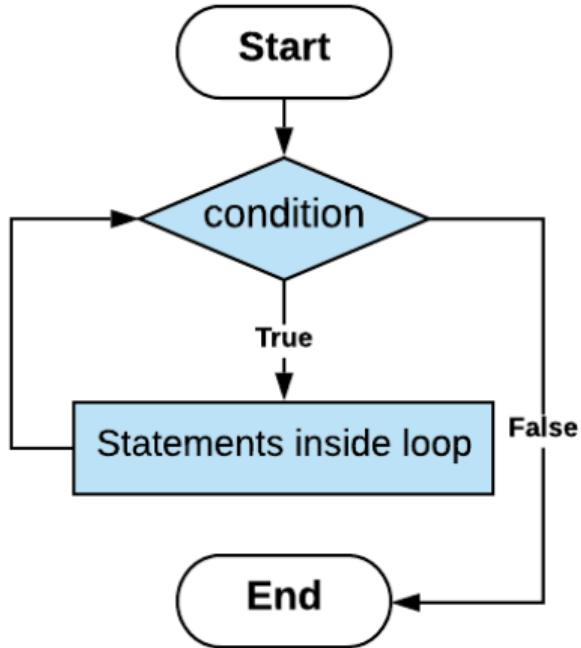
```
while (Boolean_Expression) {  
    Statement 1;  
    Statement 2;  
    :  
    Statement last;  
}
```

## do-while loop

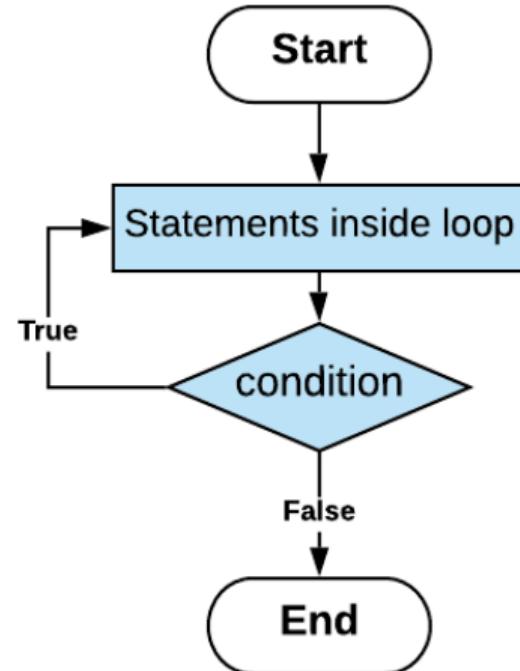
```
do {  
    Statement 1;  
    Statement 2;  
    :  
    Statement last;  
} while (Boolean_Expression);
```

# While vs Do While

## while loop



## do-while loop



- `while` executes *Statement* zero or more times
- `do while` executes *Statement* one or more times



# While vs Do While

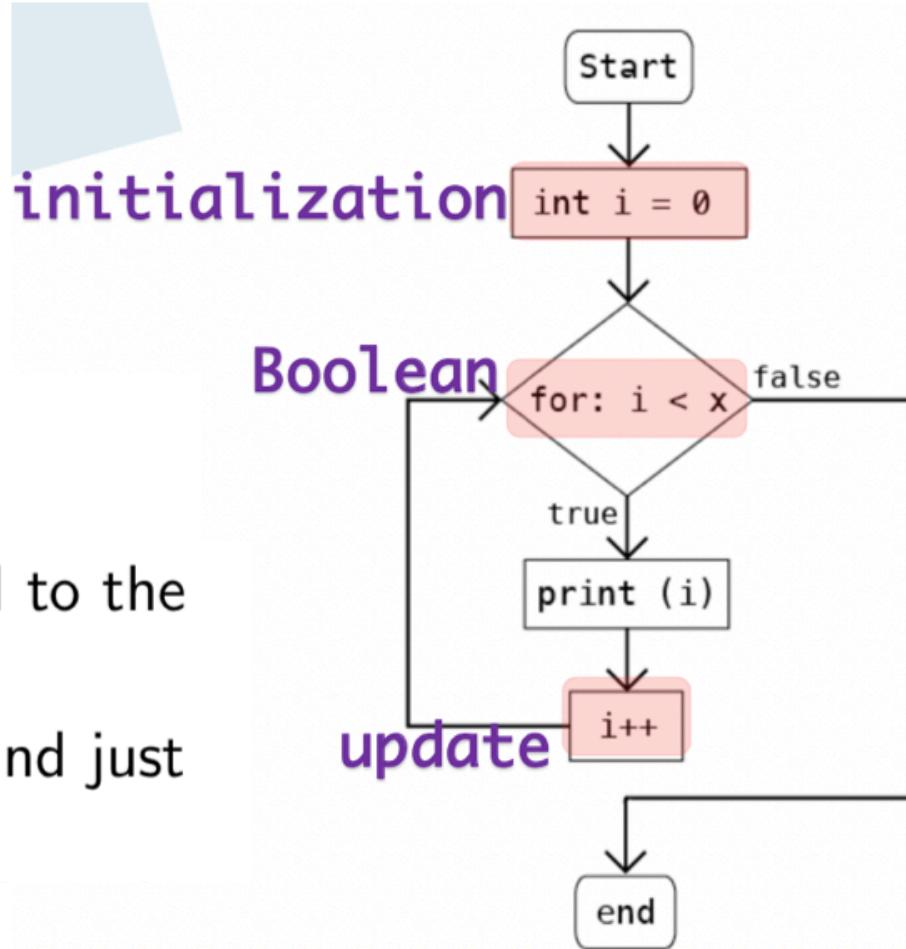
```
public class demo3 {  
    public static void main(String[] args) {  
        int x = 3, y = 0;  
        do {  
            y++;  
            x--;  
        } while (x < 0);  
        System.out.println(y);  
    }  
}
```

```
public class demo3 {  
    public static void main(String[] args) {  
        int x = 3, y = 0;  
        while (x < 0){  
            y++;  
            x--;  
        }  
        System.out.println(y);  
    }  
}
```

What will this print?

# For

```
public void printNumbers(int x){  
    for (int i = 0; i < x; i++){  
        System.out.println(i);  
    }  
}
```



- Variables declared in *init* part are scoped to the *for*: not available after the loop
- But you can declare variable before loop, and just initialise it in the *init* part

demo4

# break & continue

- Inside a `for`, `while` or `do while` loop, a `break` terminates the (innermost) loop immediately
- This is useful inside an `if` inside a loop
- A `continue` statement immediately returns to the top of the innermost loop and continues from there

```
for (int i = 0; i < 10; i++) {  
    if (i == 4) {  
        break;  
    }  
    System.out.println(i);  
}
```

```
for (int i = 0; i < 10; i++) {  
    if (i == 4) {  
        continue;  
    }  
    System.out.println(i);  
}
```

## Q1

reads in temperatures (in Celsius) for five days, that is, from Monday to Friday and plots a histogram showing the temperatures. The name of your class should be Temperatures.

Please enter temperature for Monday: 25

Please enter temperature for Tuesday: 33

Please enter temperature for Wednesday: 26

Please enter temperature for Thursday: 28

Please enter temperature for Friday: 20

Histogram of Temperatures

---

Monday | \*\*\*\*\*

Tuesday | \*\*\*\*\*

Wednesday | \*\*\*\*\*

Thursday | \*\*\*\*\*

Friday | \*\*\*\*\*



**Q2**

implement the following warning and fines in the program based on the corresponding conditions:

<u>Condition</u>	<u>Message(s)</u>
<b>1</b> > 60 and <65	Warning
<b>2</b> >60 and <65 and drunk	Warning + Take a shower
<b>3</b> 65 to <= 70	\$5 fine for each km/hr over 60 km/hr
<b>4</b> 65 to <= 70 and drunk	\$7 fine for each km/hr over 60 km/hr + Take a shower
<b>5</b> > 70	\$10 fine for each km/hr over 60 km/hr
<b>6</b> > 70 and drunk	\$15 fine for each km/hr over 60 km/hr Spend the day/night in cell until become sober

**60 range1 65 range2 70 range3**

## Sample Run 1

Please enter speed: 64

Is the driver drunk? ('Y' for drunk, 'N' otherwise): N

\*\*\*\*\*

Warning message

-----  
You have a fine of \$0.0 fine

\*\*\*\*\*

## Sample Run 2

Please enter speed: 64

Is the driver drunk? ('Y' for drunk, 'N' otherwise): Y

\*\*\*\*\*

Warning + Take a shower message

-----  
You have a fine of \$0.0 fine

\*\*\*\*\*



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# Thank you

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