

BEGINNER PROGRAMMING COURSE

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CLASS 3

# REVIEW

- ▶ Output the greater of two doubles

## DOING THINGS OVER AND OVER AGAIN

- ▶ If you wanted to repeat an action multiple times in order to do something, you would use a loop
- ▶ There are three types of loops:
  - while
  - do while
  - for

# WHILE LOOPS

- ▶ A while loop will repeat a block of code until a condition is no longer met
- ▶ It works like so:

while something is true, do something

when something is no longer true, exit the loops and move on

## WHILE LOOP STRUCTURE

```
while(boolean) {  
    // Code to execute  
}
```

# EXAMPLE WHILE LOOP

```
int x = 0;
while(x < 10) {
    System.out.println(x + " is less than 10");
    x += 1;
}
```

```
int index = 0;
int max = 58;
while(5 * x < max) {
    index += 1;
}
System.out.println(5 * index + " is the greatest "
    + "multiple of 5 less than " + max);
```

# PRACTICE

- ▶ Create a program that will print the remainder of a number divided by 5

# DO WHILE

- ▶ A do while loop is acts exactly like a while loop, **except** that it executes the code once **before checking the condition**.

```
do {  
    // Stuff to do  
} while(boolean);
```



# DO WHILE EXAMPLE

```
int x = 10;  
do {  
    System.out.println(x + " is less than 10");  
    x += 1;  
} while(x < 10);
```

# FOR LOOPS

- ▶ If you wanted to change a variable by a set amount every loop, you would do something like

```
int i = 0;
while (i < 6) {
    System.out.println(i);

    i++;
}
```

# A BETTER WAY

```
int i = 0;
while (i < 6) {
    System.out.println(i);

    i++;
}
```

```
for (int i = 0; i < 6; i++) {
    System.out.println(i);
}
```