CN4001/ CD4001
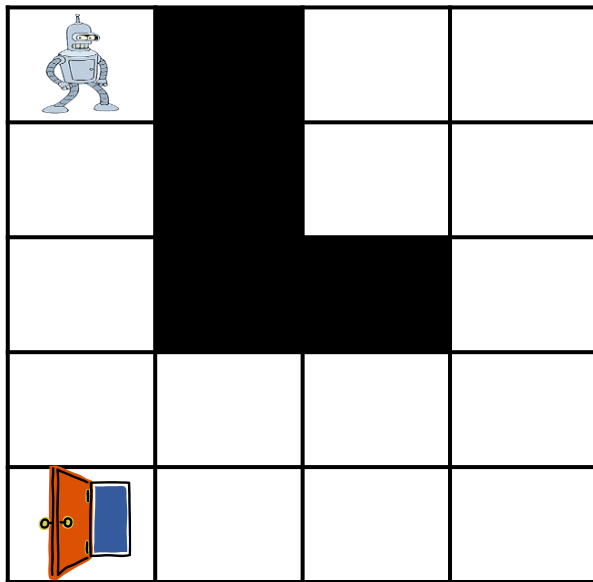# Software Development
Topic 5: Programming with Loops
Part 1

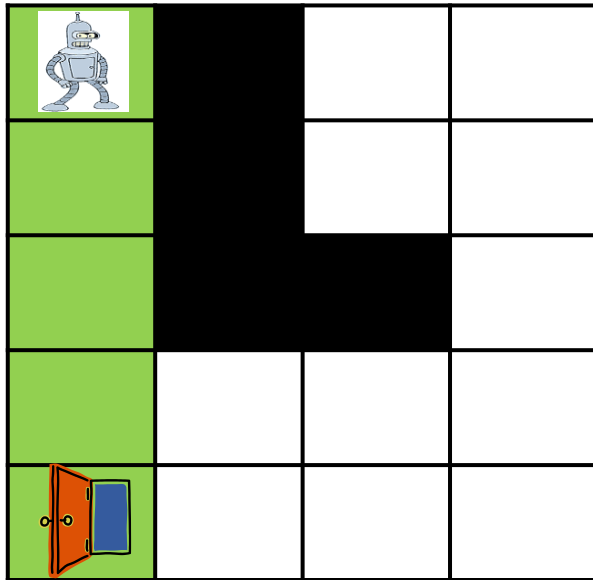# *Activity*

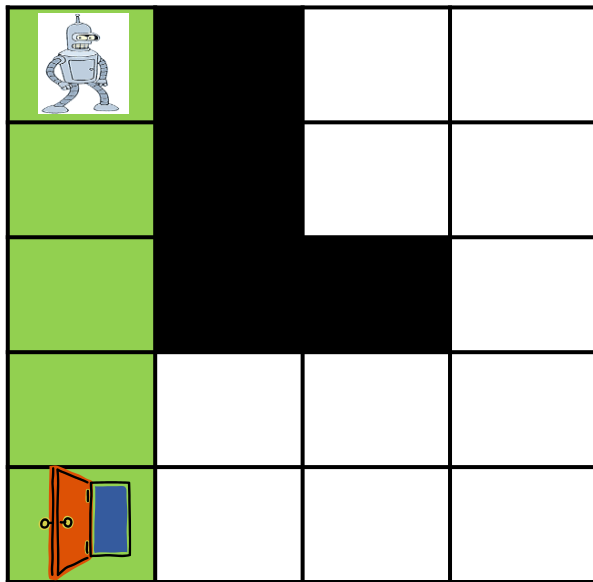**MOVE down**

Activity

Write instructions to move the robot to the door, along the path depicted.
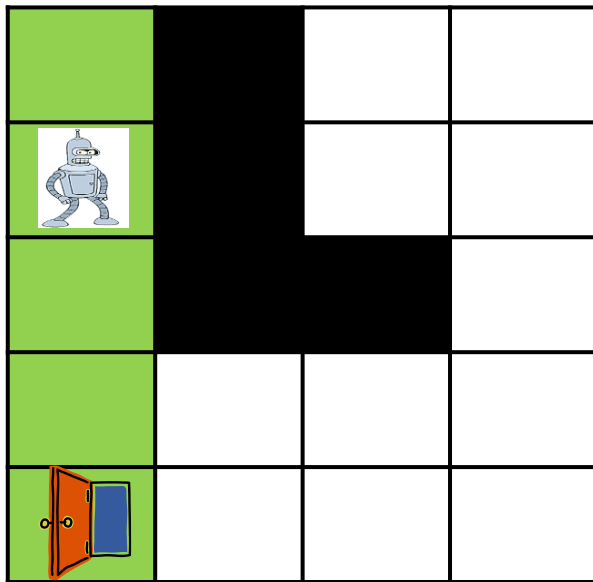
(c) Dr Aaron Kans

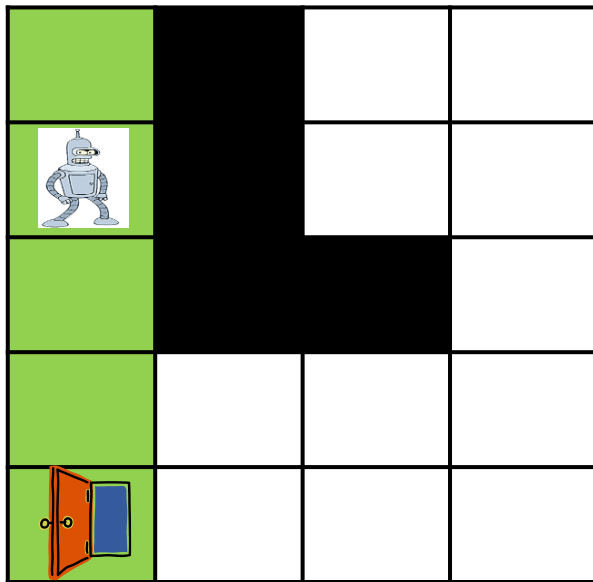# *Activity*

MOVE down

Activity

MOVE down

Activity

🤖			
🚪			

MOVE down
MOVE down

Activity

MOVE down
MOVE down

Activity

MOVE down
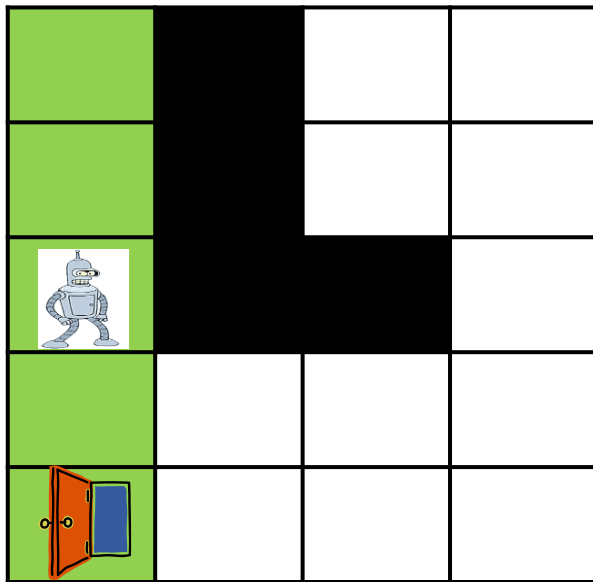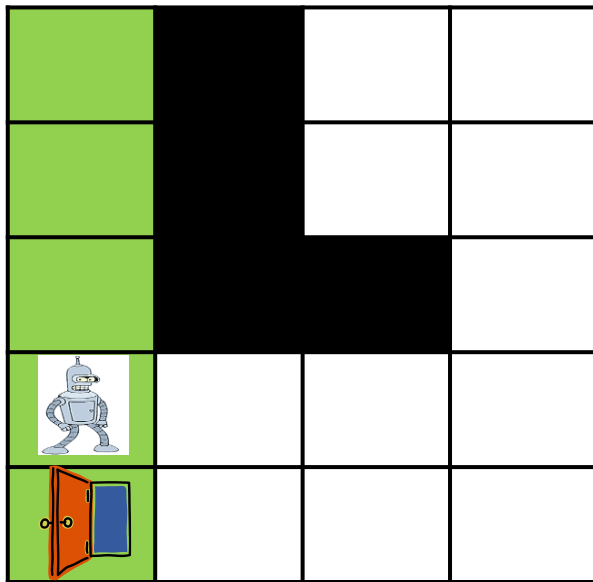MOVE down
MOVE down

(c) Dr Aaron Kans
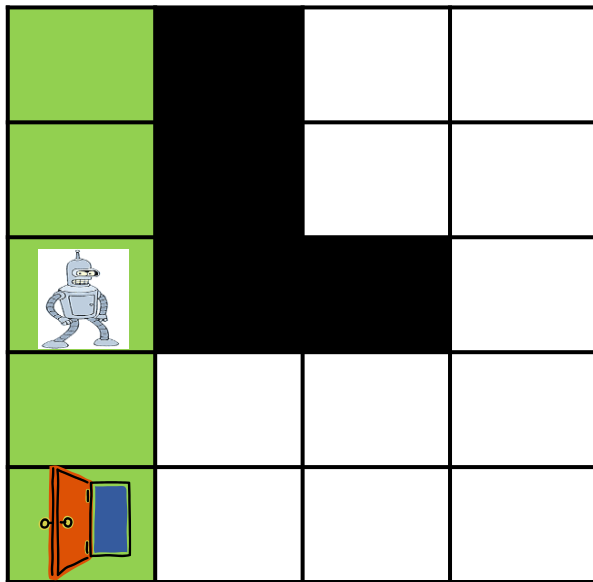
Activity

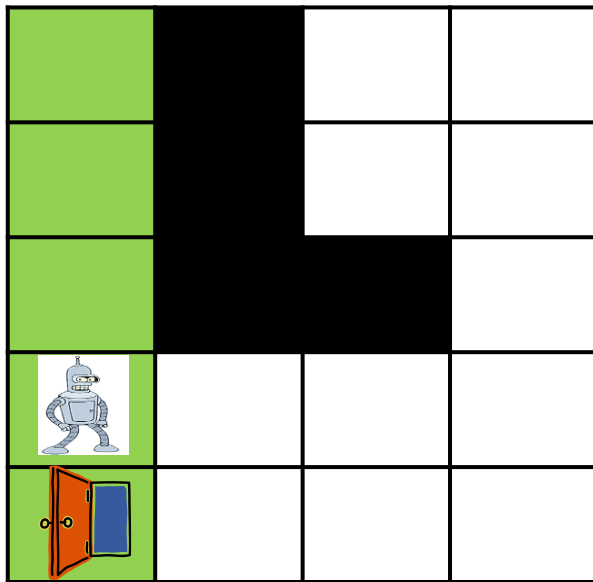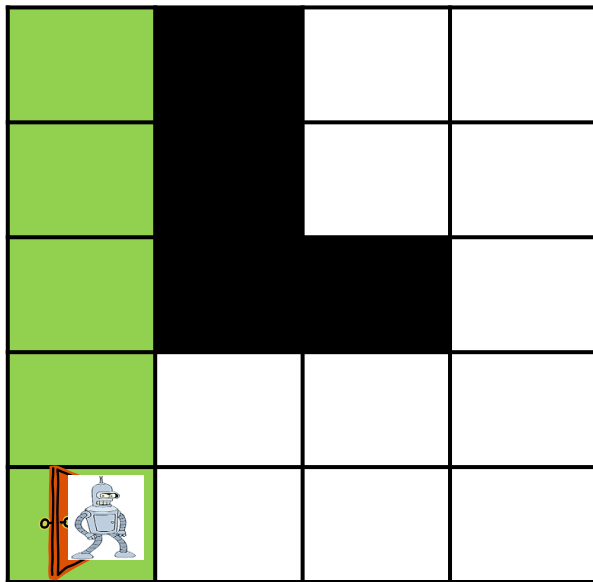**MOVE down**
MOVE down
MOVE down

Activity

MOVE down
MOVE down
MOVE down
MOVE down

Activity

MOVE down
MOVE down
MOVE down
MOVE down
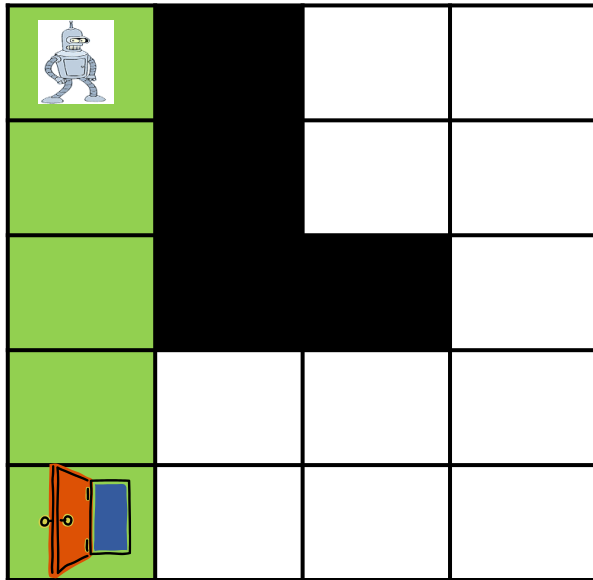
Activity

MOVE down
MOVE down
MOVE down
MOVE down
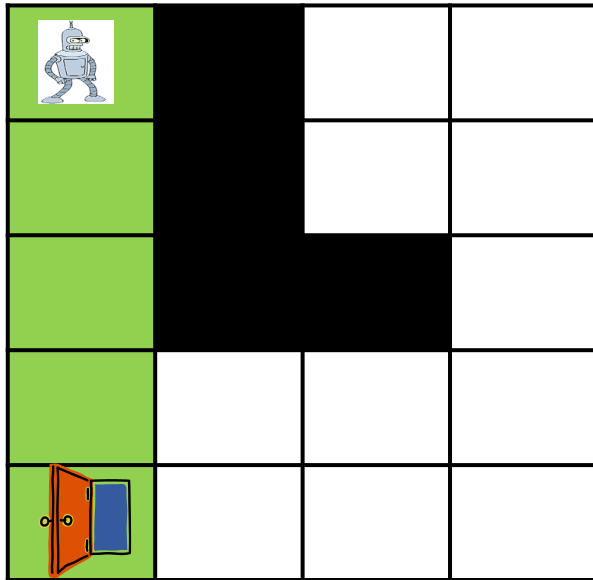
Activity


```
REPEAT n TIMES
BEGIN
      MOVE down
END
```
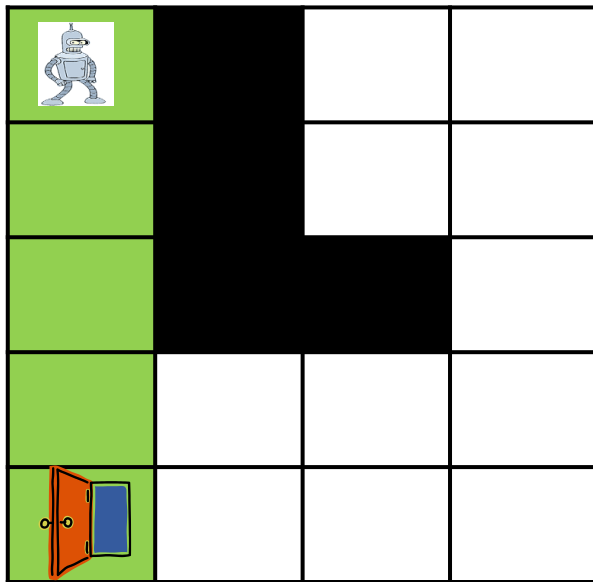
Activity

REPEAT **4** TIMES
BEGIN
     MOVE down
END

Activity
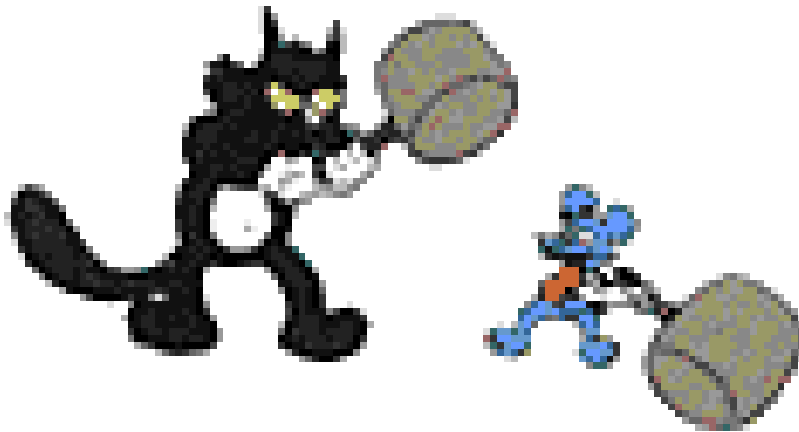
How many times does this animation repeat?

Module Study Guide

Topic 5	
Subject	**Programming with Loops**
Aims	To look at the use of **for** loops to repeat sections of code in Java programs.
	To look at the use of **while** and **do while** loops to repeat sections of code in Java programs.
Prepare	Recorded Lecture, on-line Q&A, Charatan and Kans, chapter 4
LAB	A **tutor directed assessed** exercise in writing a Java program that makes use of loops **(4 marks)**

Activity

"Write instructions to display a square of stars (five by five) on the screen as follows:"

```
* * * * *

* * * * *

* * * * *

* * * * *

* * * * *
```

(c) Dr Aaron Kans

Activity

"**Write instructions to display a square of stars (five by five) on the screen as follows:**"

```
System.out.println("*****");

System.out.println("*****");

System.out.println("*****");

System.out.println("*****");

System.out.println("*****");
```

```
* * * * *

* * * * *

* * * * *

* * * * *

* * * * *
```

(c) Dr Aaron Kans

Try and use a **loop**?

Activity

"Write instructions to display a square of stars (five by five) on the screen as follows:"

```
System.out.println("*****");

System.out.println("*****");

System.out.println("*****");

System.out.println("*****");

System.out.println("*****");
```

```
* * * * *

* * * * *

* * * * *

* * * * *

* * * * *
```

Activity

"Write instructions to display a square of stars (five by five) on the screen as follows:"

REPEAT 5 times
{

    System.out.println("***");**

}

```
* * * * *

* * * * *

* * * * *

* * * * *

* * * * *
```

Iteration

There are three types of loops in Java:

- **for loop;**

- **while loop;**

- **do…while loop**

Iteration

There are three types of loops in Java:

- **for loop;**

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- **do…while loop**

The '**for**' loop