



# Year 4 Computing - Summer Term 1: Repetition In Shapes



Code

```
FD 100
LT 90
FD 200
LT 90
FD 100
```

1. A computer can be **programmed** by typing **commands**.

Algorithm

```
1. Forward 100
2. Turn left 90
3. Forward 200
4. Turn left 90
5. Forward 100
```

2. An **algorithm** is an ordered set of precise instructions.

3. Using the repeat command in a **count-controlled** loop creates **repetition**.

```
REPEAT 4 [FD 100 RT 90]
```

Command

How many times to repeat

What to repeat  
In square brackets [ ]

```
repeat 4 [fd 100 lt 90]
```

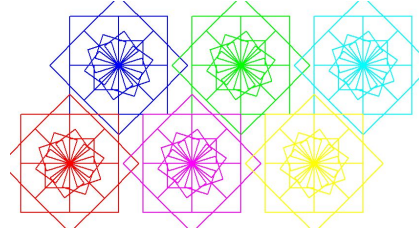
How can repetition be used to create shapes in Logo?

4. When we use repetition in programming, it is called **looping**. We can program a loop to stop after a specific number of times.

To write a procedure for a triangle:

```
TO triangle
repeat 3 [fd 100 rt 120]
END
```

5. **Decomposing** a task into small **steps** makes it easier to create a **procedure**.



6. **Debugging strategies:**

**Tracing** through the code line by line to check it  
Reading the code out loud - make sense?  
Decomposing the program into smaller parts to find errors  
Looking at other **patterns** with a similar **code** and checking your changes

algorithm	code	commands	count-controlled	debugging	decomposing
looping	patterns	procedure	programming	repetition	tracing