LOGO TURTLE COMMANDS

Your quick reference for drawing with code

This cheat sheet belongs to: _____

MOVE THE TURTLE

`FD 100`	walk forward 100 steps	FORWARD
`BK 50`	walk backward 50 steps	BACK
`RT 90`	turn right 90°	RIGHT
`LT 45`	turn left 45°	LEFT
`HOME`	go back to the middle, facing up	
`SETXY 100 50`	jump to spot x 100, y 50	
`SETH 90`	face a direction (90 = right)	SETHEADING

PEN & COLOUR

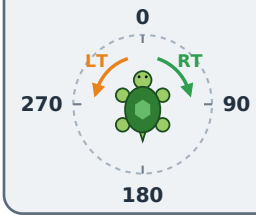
`PU`	pen up: move without drawing	PENUP
`PD`	pen down: draw again	PENDOWN
`SETPC 4`	pen colour (see numbers below)	SETPENCOLOR
`SETPENSIZE 3`	make your lines thicker	

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

SCREEN & TURTLE

`CS`	wipe the screen & go home	CLEARSCREEN
`CLEAN`	wipe drawings, turtle stays put	
`HT`	hide the turtle	HIDETURTLE
`ST`	show the turtle again	SHOWTURTLE
`WAIT 60`	pause for 1 second (60 = 1 sec)	

WHICH WAY IS THE TURTLE FACING?



The turtle starts in the middle facing up. That is heading **0**.
RT turns clockwise ↻
LT turns the other way ↺
One full turn = **360°**
The middle is **x 0, y 0**

TRY THIS!

Draw a house: a square with a triangle roof. Can you add a door? Make the roof red with SETPC 4!



REPEAT do it again & again

```
REPEAT 4 [FD 60 RT 90]
```

Does everything inside `[ ]` 4 times.
That makes a square!



```
REPEAT 12 [REPEAT 4 [FD 50 RT 90] RT 30]
```

A repeat inside a repeat...
makes a flower!



MAKE YOUR OWN COMMAND

Teach the turtle a new word with **TO** ... **END**:

```
TO SQUARE
  REPEAT 4 [FD 60 RT 90]
END
```



Now type **SQUARE** and it draws one!
Give it an input (a number you can change) with **:**

```
TO BOX :SIZE
  REPEAT 4 [FD :SIZE RT 90]
END
BOX 20  BOX 40  BOX 60
```



VARIABLES & MATHS

`MAKE "SIDE 50`	put 50 in a box named SIDE	
`FD :SIDE`	use the number inside the box	
`PRINT :SIDE`	show the number as words	PR
`FD 10 * 5`	do maths! + - * / all work	
`RANDOM 10`	a surprise number from 0 to 9	

`"SIDE` = the box's name `:SIDE` = what's inside

MAKING CHOICES

```
IF :SIDE > 40 [PRINT "BIG]
```

Runs the `[ ]` part only if it is true.

```
IFELSE :SIDE > 40 [SETPC 4] [SETPC 1]
```

True? Do the 1st `[ ]`. False? Do the 2nd `[ ]`.

Compare with `=` `<` `>` (equal, less, more)

SHAPE MAGIC turn = 360 ÷ number of sides

Triangle	Square	Pentagon	Hexagon	Octagon	Circle	Star
						
`REPEAT 3 [FD 100 RT 120]`	`REPEAT 4 [FD 100 RT 90]`	`REPEAT 5 [FD 100 RT 72]`	`REPEAT 6 [FD 100 RT 60]`	`REPEAT 8 [FD 50 RT 45]`	`REPEAT 36 [FD 10 RT 10]` lots of tiny steps	`REPEAT 5 [FD 100 RT 144]` 144 = 720 ÷ 5

BUG-BUSTING TIPS

✔ `FD 100` ✘ `FD100` Put a space between words & numbers. • Every `[` needs a `]`
Nothing drawing? Try **PD** and **ST** • Big mess? Type **CS** • UPPER or lower case both work

Works in most versions of Logo (Turtle Academy, UCBLogo, FMSLogo & more). A few names can be a little different in some versions, so check your Logo's help if one doesn't work.