

Introductory sequence for Logo basics (with FMSLogo)

1. Direct Drive

FD, BK, RT, LT, PU, PD

CLEARSCREEN

CLEAN

HOME

2. Mouse & Keyboard

Use mouse and keyboard to edit typing history in command line

'MANUAL REPEAT' (i.e. repeated clicking on instruction in history)

Reading and understanding error messages (using and interpreting system feedback).

3. REPEAT & FOREVER

REPEAT 12 [FD 100 LT 30]

SETPC

SETBG

SETPENSIZE (take care: different MSW and FMS)

Using colour

4. Using MAKE to create VARIABLES

E.g. FD :SIZE

Where can you use variables? Does it help in any way?

Variable reassignment: – MAKE "name :name + 15 etc.

5. SLOWDRAW

Use with input greater than 0 to slow the Turtle down

SLOWDRAW 0 resets the Turtle speed to normal.

6. Nest repeats:

REPEAT 6 [FORWARD 100 LT 60]

REPEAT 36 [REPEAT 6 [FORWARD 100 LEFT 60] RT 10]

7. Total Turtle Trip Theorem

HEADING

POS

8. CHALLENGE:

Look at this:

REPEAT 10 [FORWARD 100 LT 90]

Can you adjust some or all of the values in this program so that the Turtle begins and ends at the same place and with the same heading?

Try this one:

```
REPEAT 100 [REPEAT 6 [ FORWARD 100 LEFT 60 ] RT 10]
```

Or this one?

```
REPEAT 34 [REPEAT 8 [FORWARD 100 LEFT 54] RT 13]
```

9. Using MAKE to create spirals:

```
MAKE "SIDE 5 REPEAT 100 [ FD :SIZE LT 90 MAKE "SIDE :SIDE + 5]
```

Experiment with the angle input and the value added to :SIDE

What sort of spiral will be made if the side length stays the same but the angle changes instead?

Your program would start like this: MAKE "ANGLE 3

10. Beginning Procedures

```
TO TRI  
REPEAT 3 [FD 100 LT 120]  
END
```

```
TO SHAPE1  
REPEAT :SIDES [FD :SIZE LT :ANGLE]  
END
```

```
TO SHAPE2  
FD :SIZE LT :ANG  
SHAPE2  
END
```

```
TO SPIRAL1  
FD :SIZE LT :ANG  
MAKE "SIZE :SIZE + 5  
SPIRAL1  
END
```

```
TO SPIRAL2  
FD :SIZE LT :ANG  
MAKE "ANG :ANG + 7  
SPIRAL2  
END
```

11. House Problem

```
TO HOUSE  
TRI  
?????  
HOUSE  
END
```