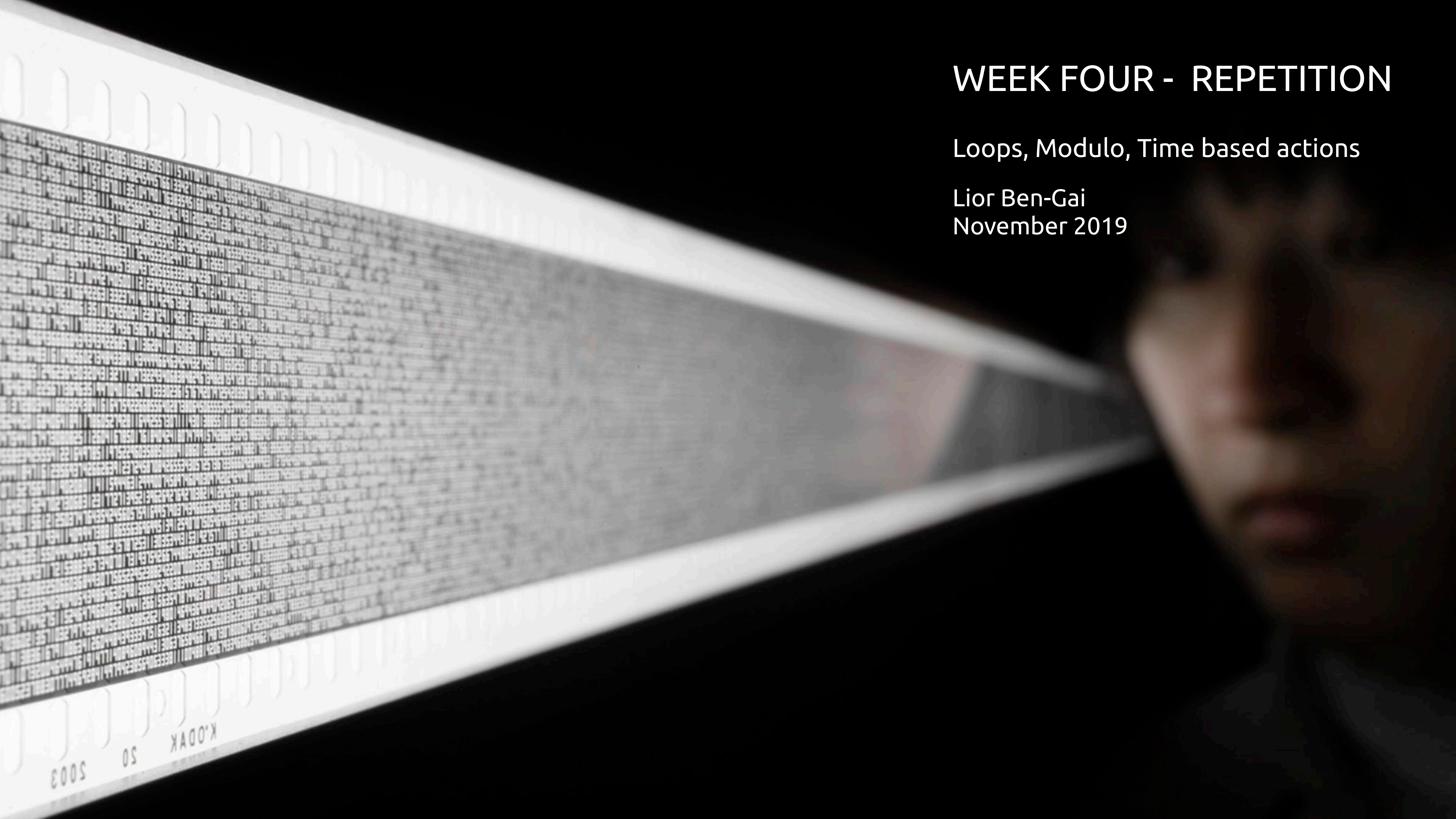


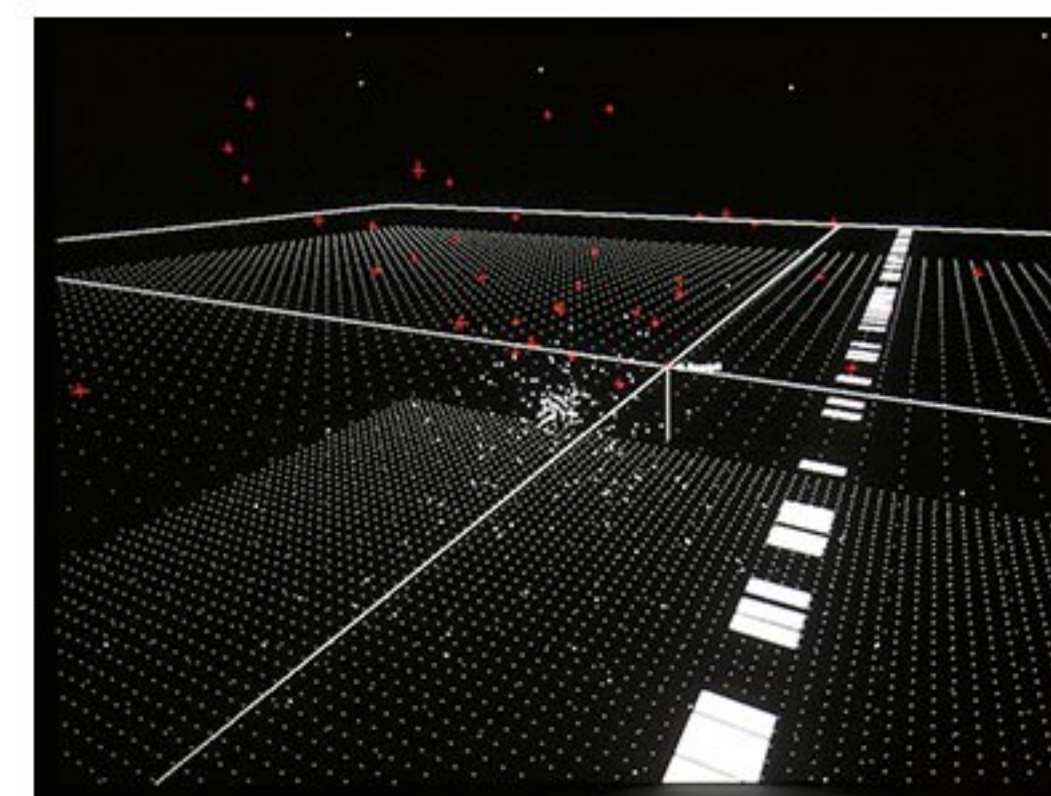
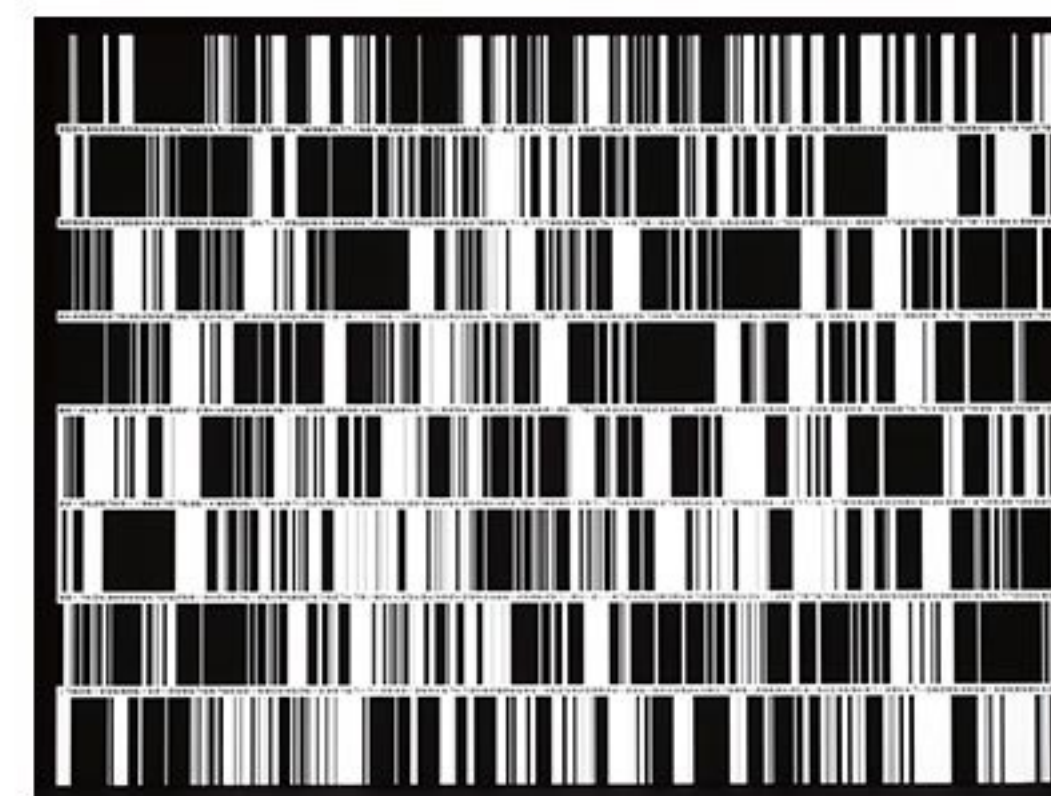
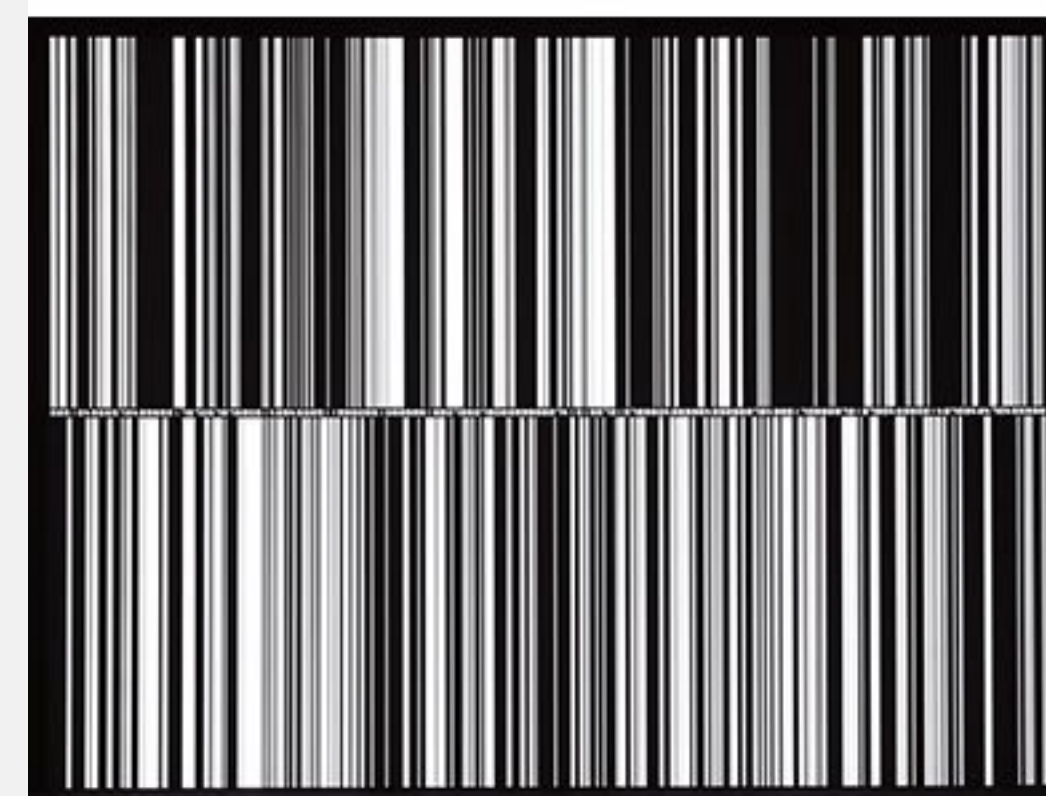
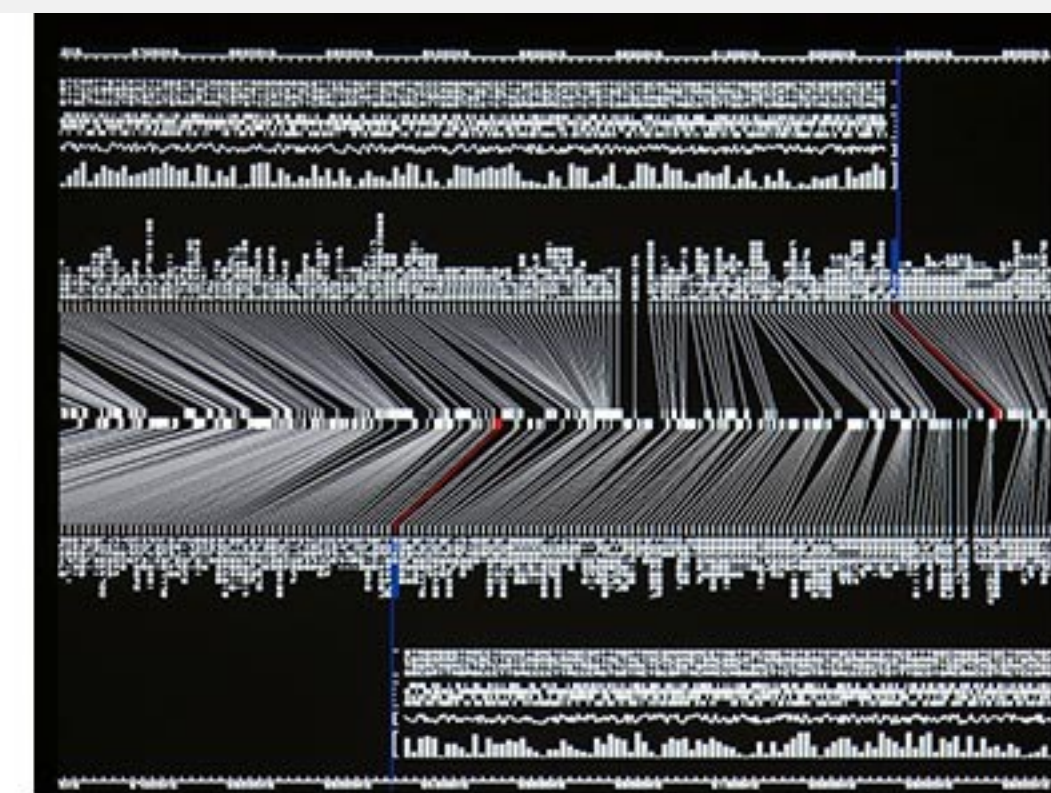
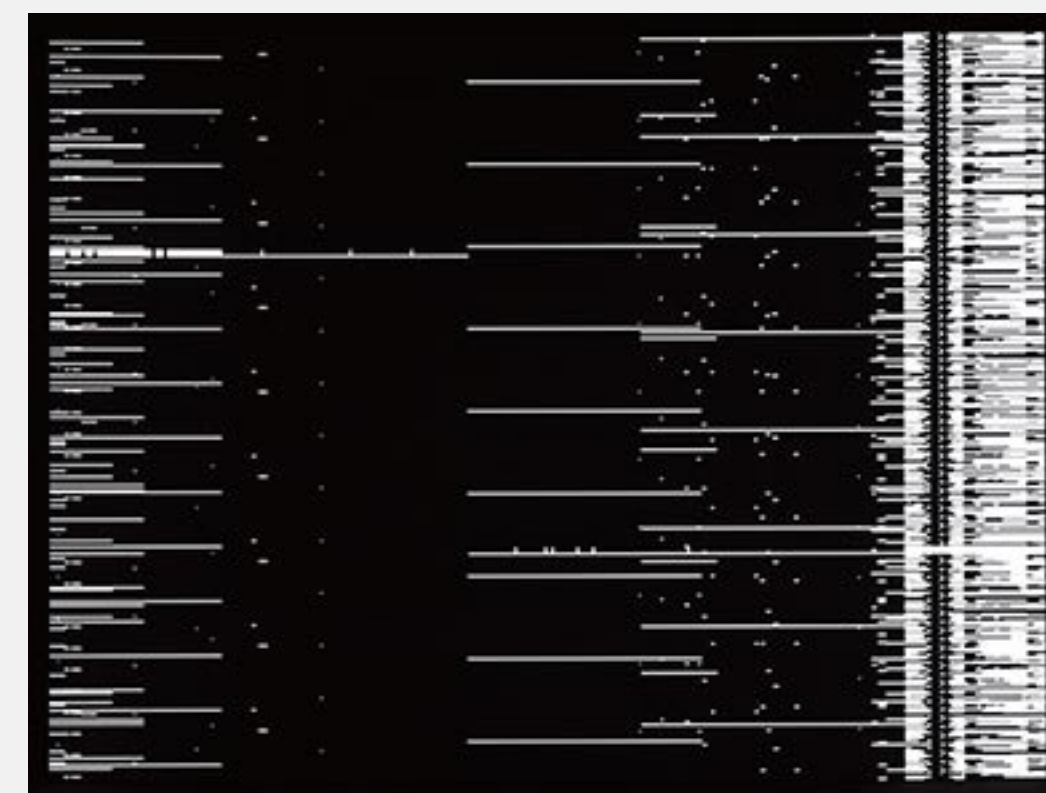
WEEK FOUR - REPETITION

Loops, Modulo, Time based actions

Lior Ben-Gai

November 2019



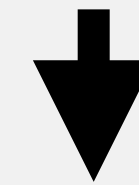


Ryoji Ikeda

<http://www.ryojiikeda.com/project/datamatics/#datamatics>

THE BUILDING BLOCKS OF CODING

You are Here



MEMORY DECISION **REPETITION** ACTION

3. REPETITION

- Loops allow the program to **rapidly** repeat operations.
- A Loop is a block of code that is executed multiple times "at once".
- There are two popular forms of Loops: **For()** and **while()**

CONDITIONAL STATEMENT BLOCK (Last Week)

```
line(x, 0, x, height);
```

```
x += 10;
```

```
if( x > width ){
```

```
    x = 0;
```

```
}
```

WHILE LOOP BLOCK

```
var x = 0;  
while( x < width ){  
    line(x, 0, x, height);  
    x += 10;  
}
```

BEWARE OF INFINITE LOOPS!!!

```
var x = 0;  
while( x < width ){  
    line(x, 0, x, height);  
}
```

FOR LOOP BLOCK

The diagram illustrates the components of a for loop block. The code is: `for(var i = 0; i < 100; i++) { point(i * 10, 10); }`. Annotations include: 1. Define Iterator (over `var i = 0`), 2. Loop condition (over `i < 100`), 3. Advance Iterator (over `i++`), and Loop body (over the block `{ point(i * 10, 10); }`).

```
for(var i = 0; i < 100; i++) {  
    point(i * 10, 10);  
}
```

1. Define Iterator

2. Loop condition

3. Advance Iterator

Loop body

TIME & DATE

```
print("The time is now: ");
```

```
print(hour() + ":" + minute() + ":" + second());
```

millis()

second()

minute()

hour()

day()

month()

year()

HOMEWORK #4

A computer is, in a way, no more than a complicated (and very fast) clock.

1. Please design and program a clock app.

Your clock cannot tell time in the traditional way: **You cannot use digits or dials.**

Instead, try to re-imagine how time could be measured and perceived in a new and original way.

- Bonus* for programming extra functionality (ie: a programmable alarm)

2. Suggest a digital artist for next week's spotlight in the #links channel

*Not an actual bonus to your mark