This is CS 50.

Harvard College's Introduction to Computer Science I

COMPUTER SCIENCE 50

WEEK 0

DAVID J. MALAN '99
malan@post.harvard.edu

Algorithms

```
1   let socks_on_feet = 0
2   while socks_on_feet != 2
3         open sock drawer
4         look for sock
5         if you find a sock then
6               put on sock
7               socks_on_feet++
8               look for matching sock
9               if you find a matching sock then
10                    put on matching sock
11                    socks_on_feet++
12                    close sock drawer
13              else
14                    remove first sock from foot
15                    socks_on_feet--
16        else
17              do laundry and replenish sock drawer
```

O hai, C!

hai.c

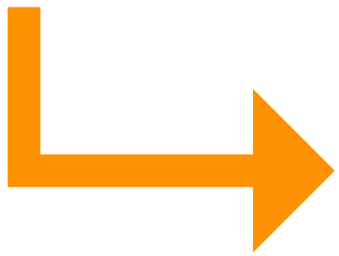
```
#include <stdio.h>


int
main(int argc, char *argv[])
{
    printf("O hai, world!\n");
}
```

O hai, C!

```
#include <stdio.h>


int
main(int argc, char *argv[])
{
    printf("O hai, world!\n");
 }
```



```
10000011 00000001 00010001 00000000 00111101 11111100 01110100 00111101
00000000 01000000 00000000 00000000 00000000 00000000 00000000 00000000
10010000 00000000 00000000 00000000 01010000 00000000 00000111 00110000
00001011 00000001 00001011 00000011 00001010 00000000 00000000 00000000
00000000 00100000 00000000 00000000 00000000 00000000 00000000 00000000
00000000 00100000 00000000 00000000 00000000 00000000 00000000 00000000
00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000
01110000 00010000 00000000 00100000 00000001 00000000 00000000 00000000
00000000 00000000 00000000 00100000 00000001 00000000 00000000 00000000
00000000 00000000 00000000 01000000 00000001 00000000 00000000 00000000
00000000 00100000 00000000 01000000 00000001 00000000 00000000 00000000
11111111 11111111 11111111 11111111 11111111 11111111 11111111 11111111
10010000 10000000 00000000 01000000 00000001 00000000 00000000 00000000
00101110 01100100 01111001 01101110 01100001 01101101 01101001 01100011
10110000 00000100 00000000 00100000 00000001 00000000 00000000 00000000
10110000 00000100 00000000 00100000 00000001 00000000 00000000 00000000
10100000 00000001 00000000 00000000 00000000 00000000 00000000 00000000
10110000 00000100 00000000 00000000 00000000 00000000 00000000 00000000
00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000
00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000
00000000 00000000 00000000 00000000 00000000 00100000 00000000 00000000
                                [...]
```

O hai, Scratch!

Hai1.sb

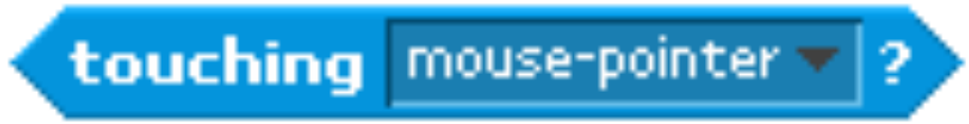
Statements

. . .

Statements

Hai{2,3}.sb

Boolean Expressions



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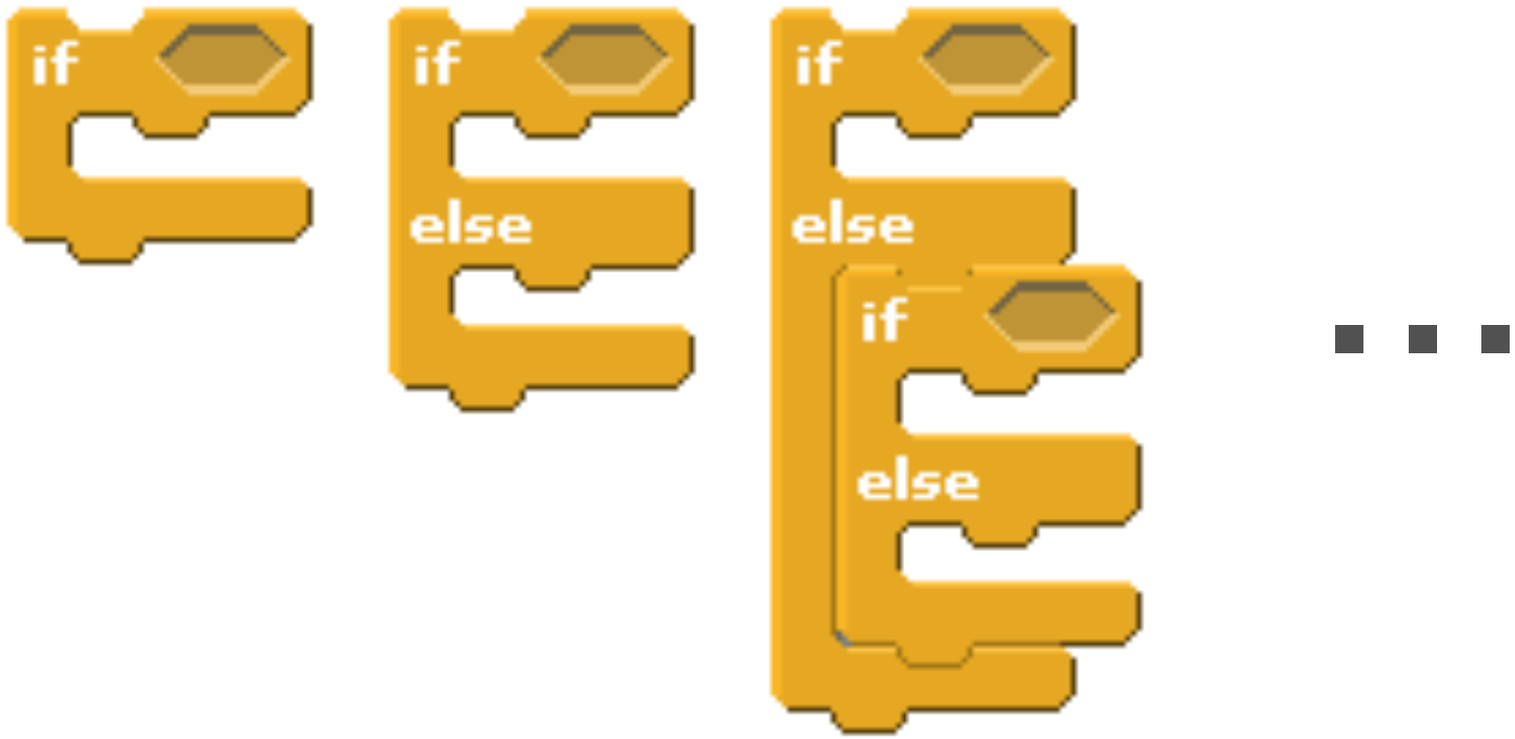
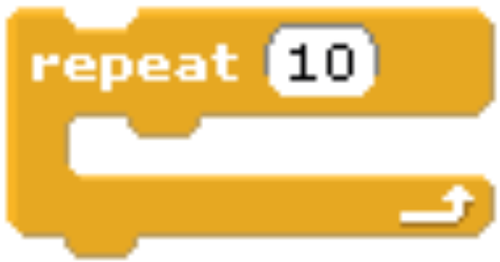
Conditions



Conditions

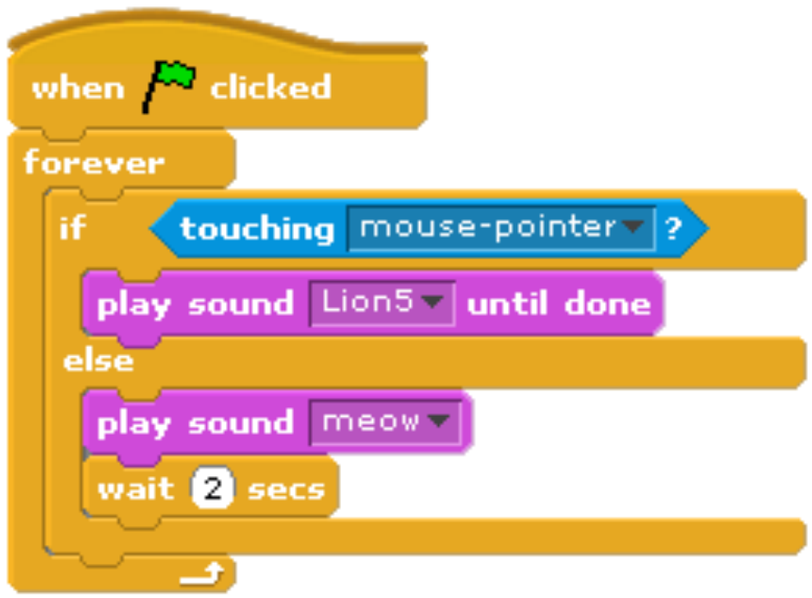
Hai{4,5}.sb

Loops



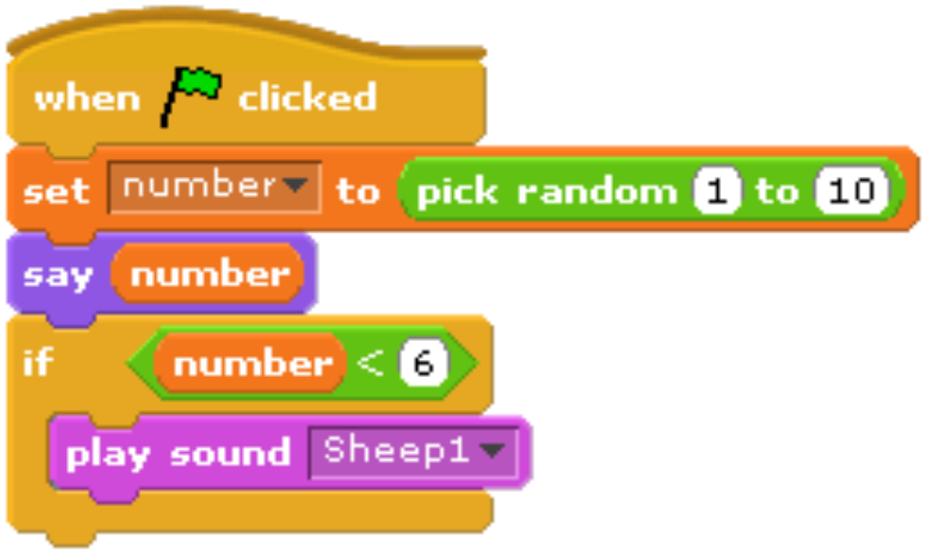
Loops

Hai{6,7,8}.sb

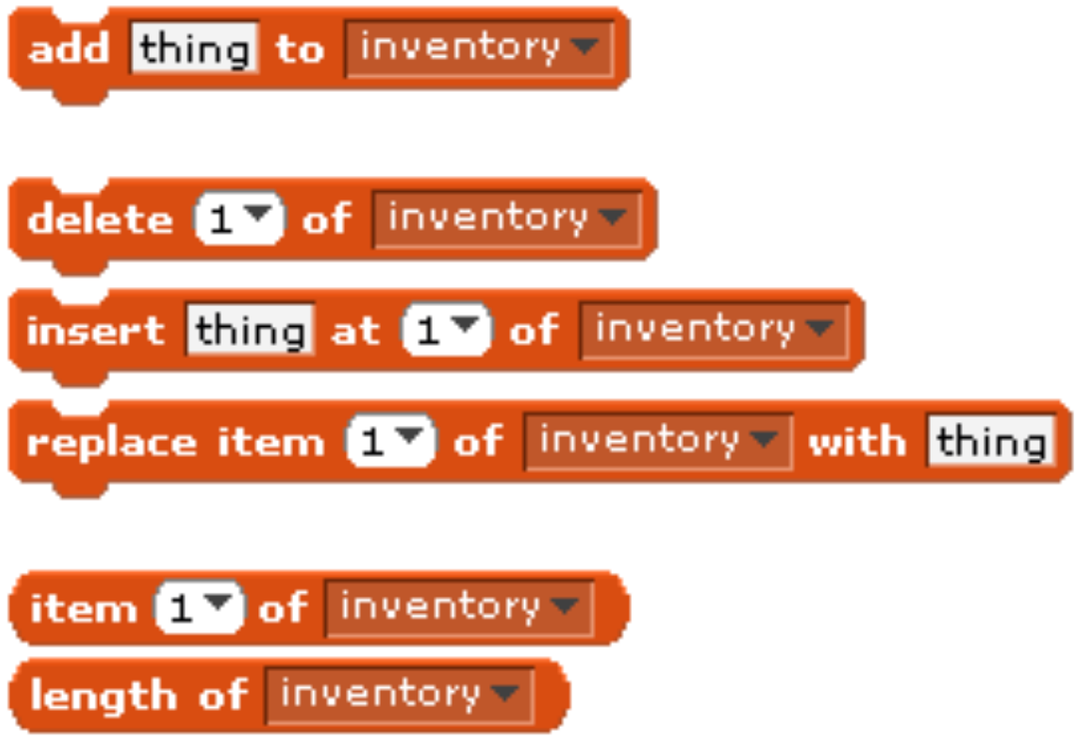


Variables

Count{1,2}.sb

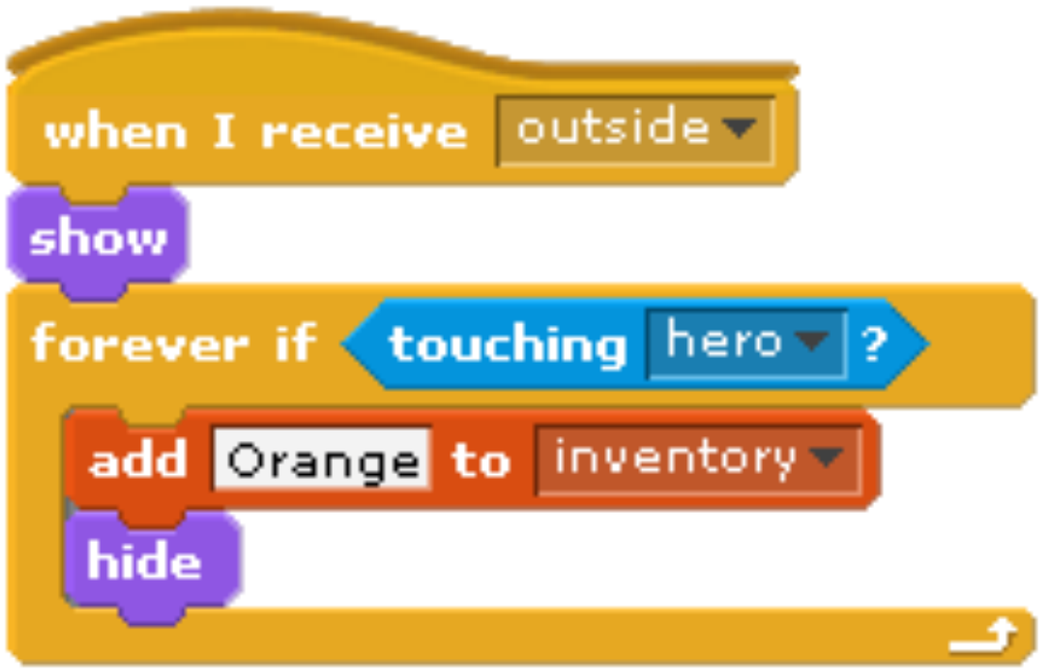


Arrays


add thing to inventory
delete 1 of inventory
insert thing at 1 of inventory
replace item 1 of inventory with thing
item 1 of inventory
length of inventory

Arrays

FruitcraftRPG.sb

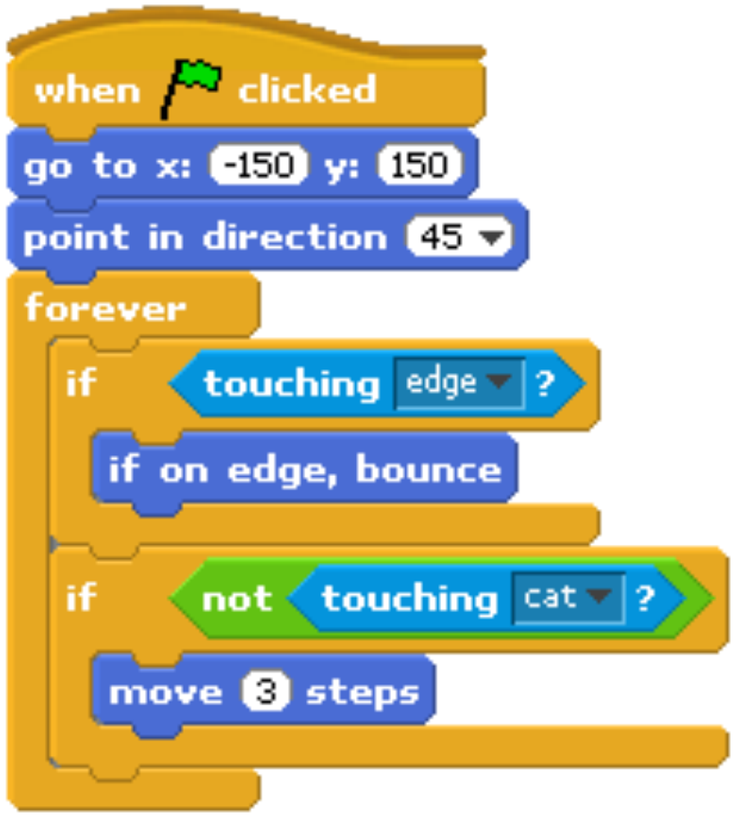


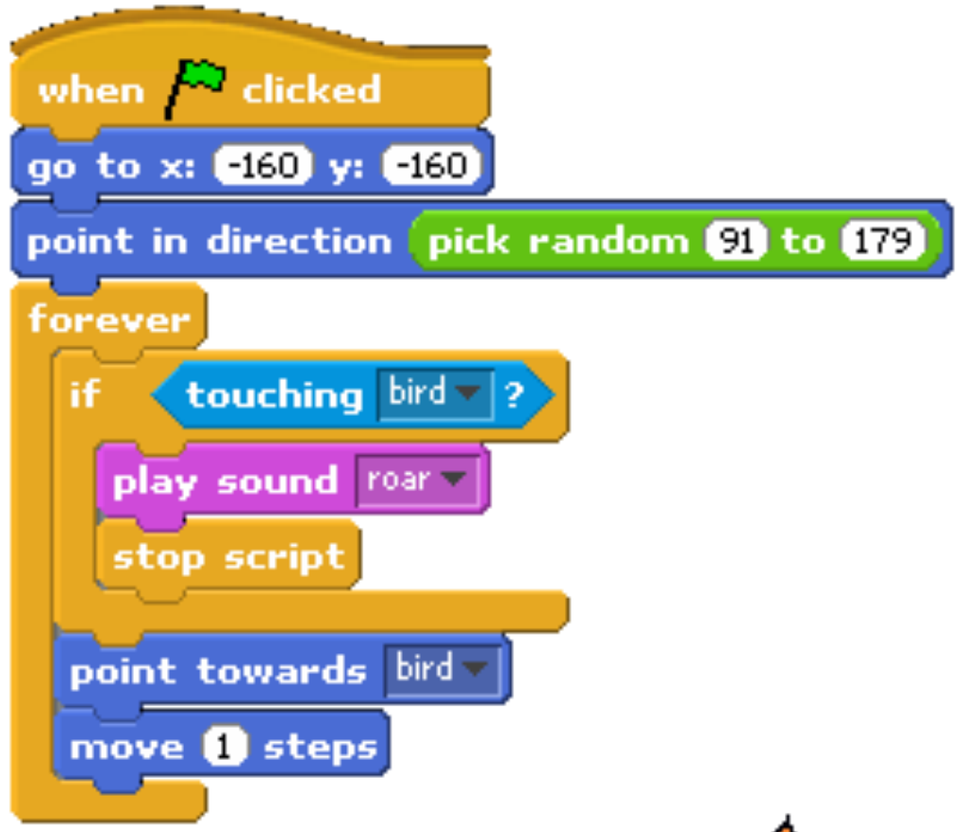
Threads

Move1.sb

Threads

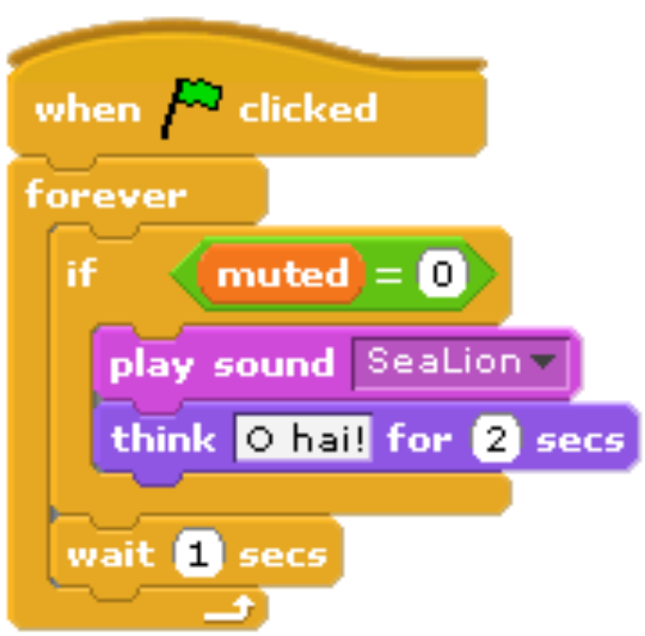
Move2.sb

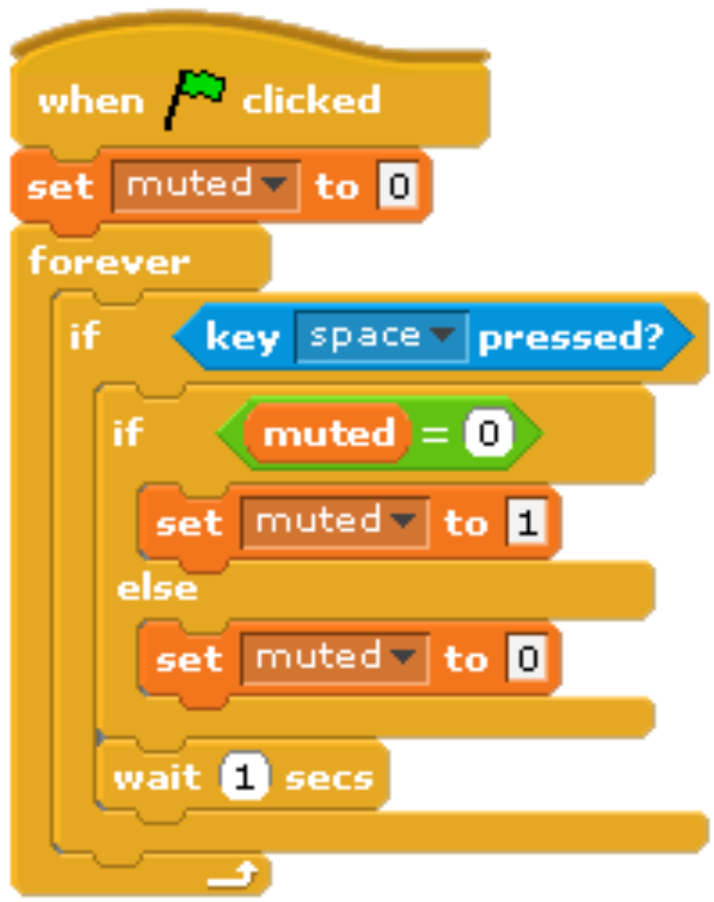




Threads

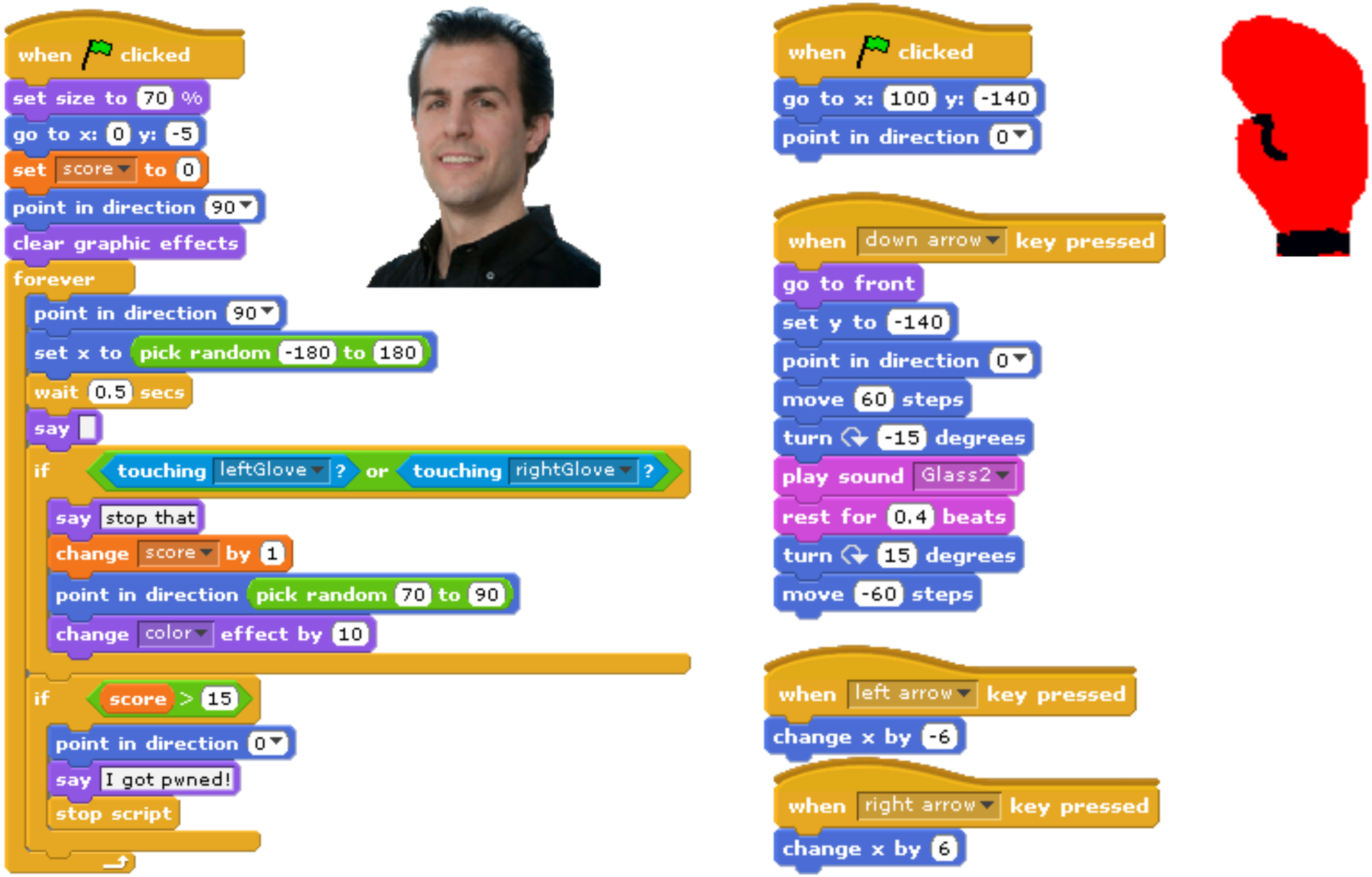
Hai10.sb





Threads

David.sb

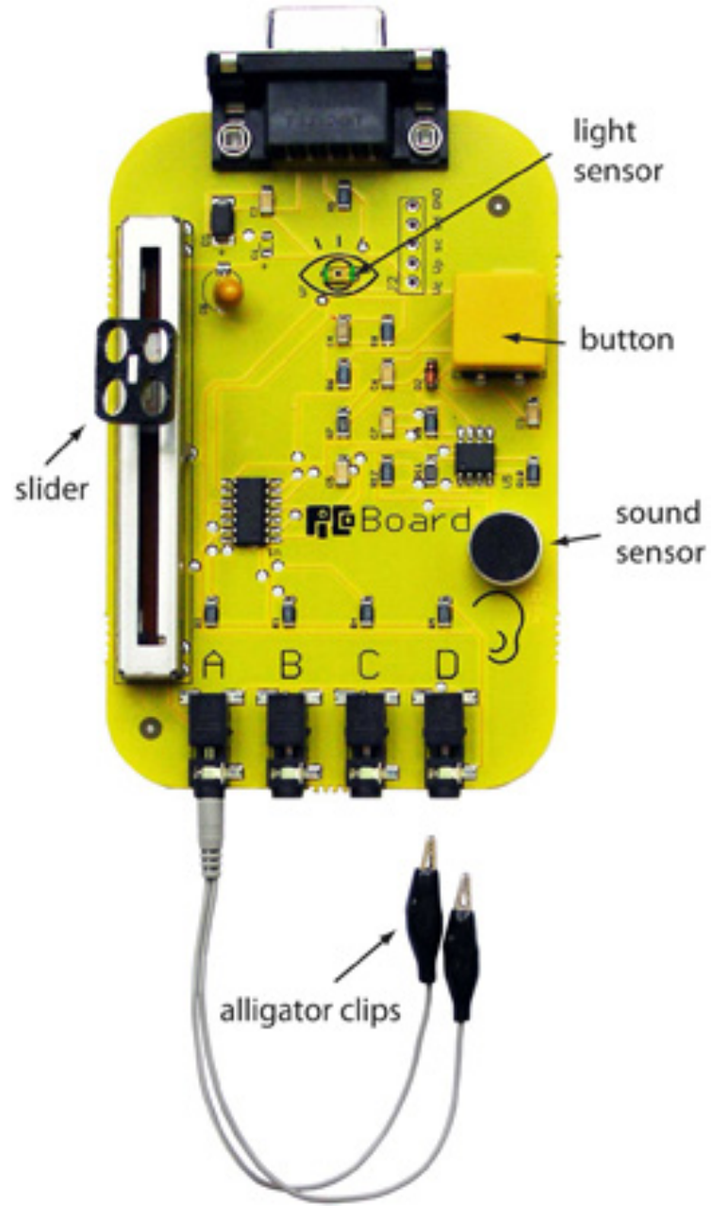


Events

Marco.sb

Sensors

singer.sb, Masquerade.sb, davidwu.sb

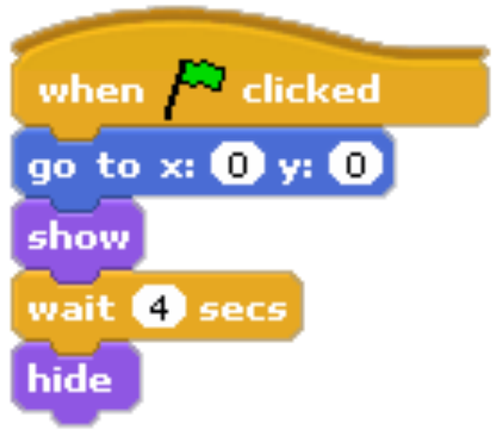


Oscartime

Oscartime.sb

Oscartime

Displaying the instructions



Oscartime

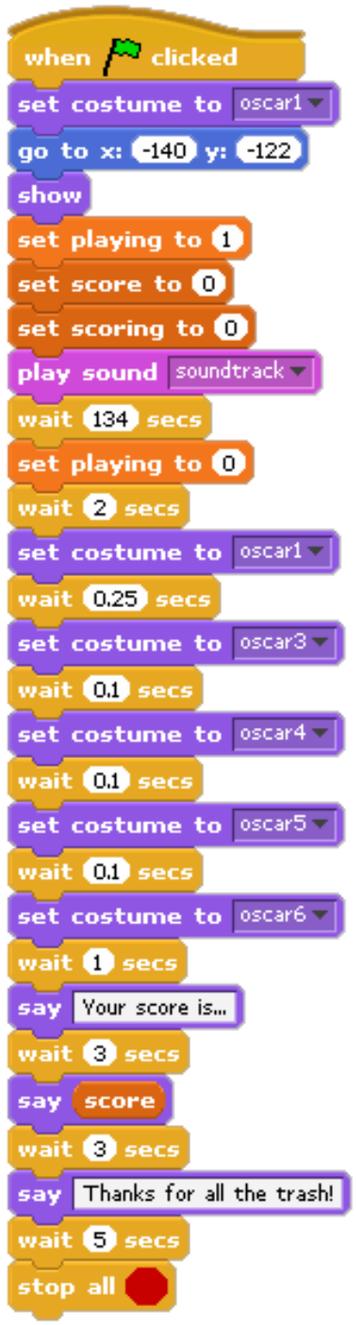
Making trash fall

Oscartime

Implementing dragging

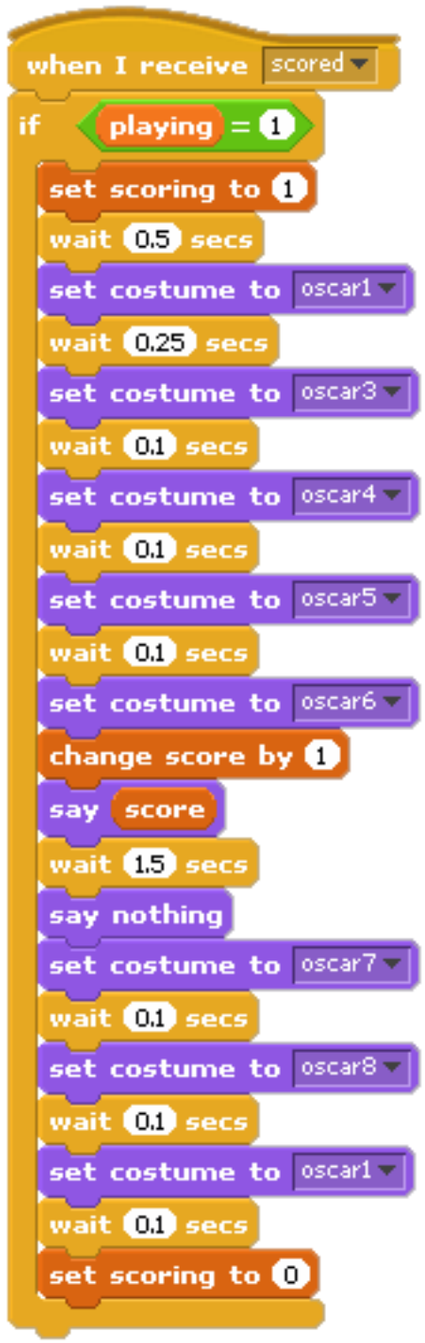
Oscartime

Imposing a time limit



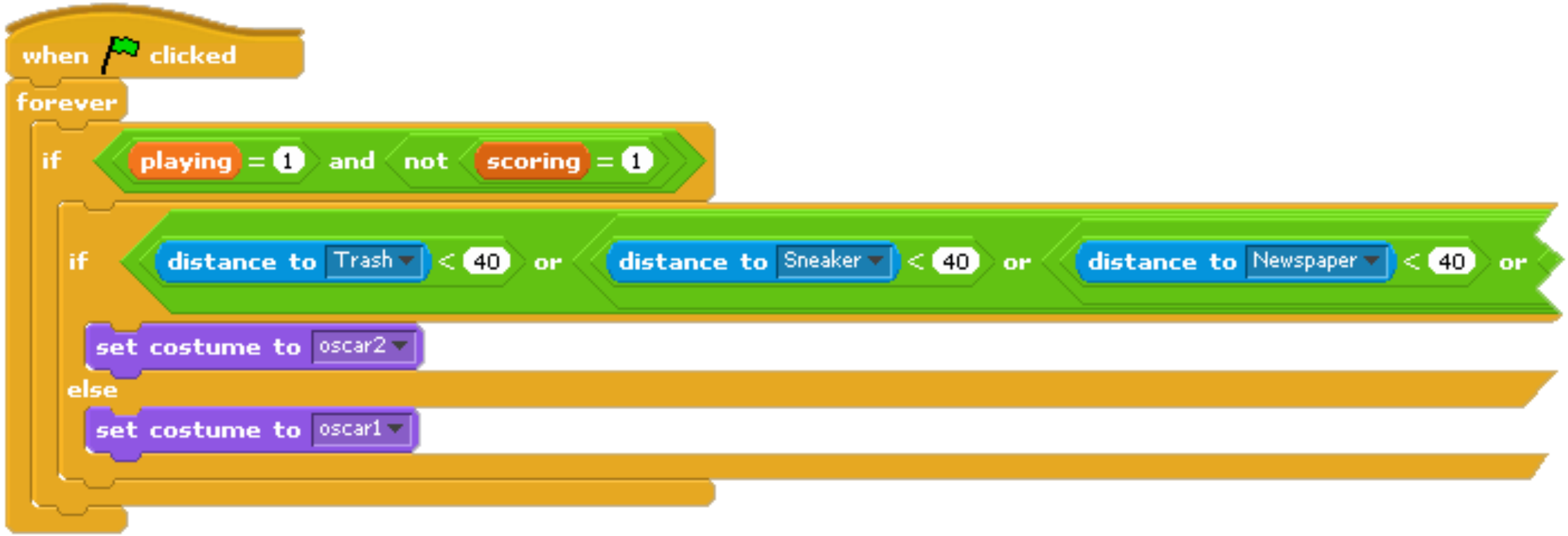
Oscartime

Keeping score

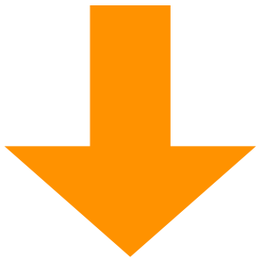


Oscartime

Raising Oscar's lid



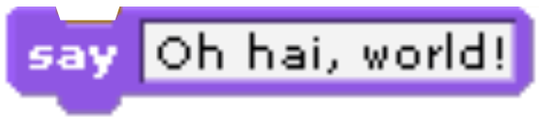
Scratch Meets C

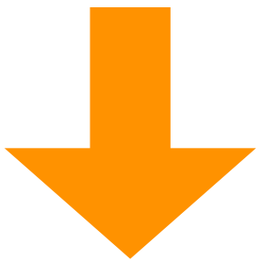


```
int
main(int argc, char * argv[])
{
    printf("O hai, world!\n");
}
```

Statements

Scratch v. C

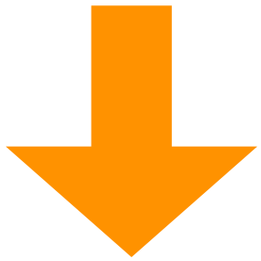




```
printf("O hai, world!\n");
```

Boolean Expressions

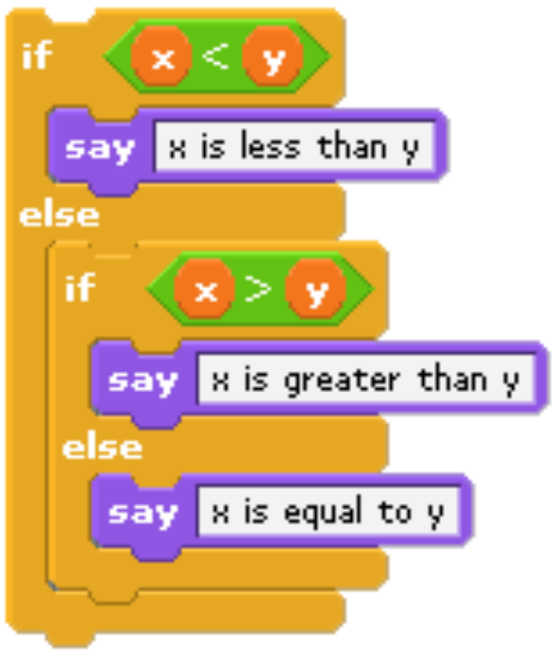
Scratch v. C



```
(x < y)
((x < y) && (y < z))
```

Conditions

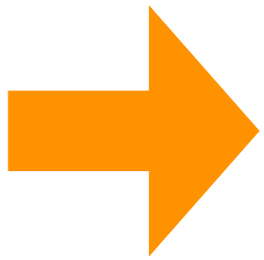
Scratch v. C



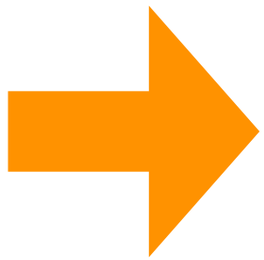

```
if (x < y)
{
    printf("x is less than y\n");
 }
else if (x > y)
{
    printf("x is greater than y\n");
}
else
{
 printf("x is equal to y\n");
}
```

Loops

Scratch v. C



```
while (1)
{
    printf("O hai!\n");
}
```



```
for (int i = 0; i < 10; i++)
{
    printf("O hai!\n");
}
```

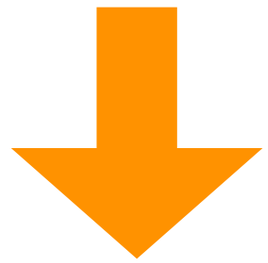
Variables

Scratch v. C


```
int counter = 0;
while (1)
 {
     printf("%d\n", counter);
     counter++;
}
```

Arrays

Scratch v. C



```
char *inventory[SIZE];
inventory[i] = "Orange";
```

kthxbai