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GIANT CALCULATOR
SOLVES PROBLEMS
IN MATHEMATICS

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AIKEN - IBM AUTOMATIC SEQUENCE CONTROLLED CALCULATOR

MARK I



9/9

0800 Antran started
1000 .. stopped - antran ✓
13" UC (032) MP - MC
(033) PRO 2
Relays 6-2 in 033 failed special speed test
in relay

{ 1.2700 9.037847025
9.037846995 correct
~~1.98214000~~
~~2.130476715~~(23) 4.615925059(-2)

2.130476415
2.130676415

Relay 2145
Relay 3371

1100 Started Cosine Tapc (Sine check)
1525 Started Multi Adder Test.

1545



Relay #70 Panel F
(moth) in relay.

1630 Antran started.
1700 closed down.

/lectures

- notes
- slides
- source code
- transcripts
- videos
- walkthroughs

when  clicked

say [hello, world!]

say

hello, world!

statements



A Scratch script consisting of a single script hat with a purple body. Inside the body, the word "say" is written in black, followed by a white speech bubble containing the text "hello, world!".

functions



A Scratch script consisting of a single script block. The block is purple with a white speech bubble. Inside the bubble, the word "say" is on the left and the text "hello, world!" is on the right, separated by a thin vertical line.

```
say [hello, world!]
```



loops





mouse down?

Boolean expressions

mouse down?



conditions



conditions



sectioning

today through Fri

supersections

week 2

sections

week 3 onward

problem set 0

9 late days

office hours

code

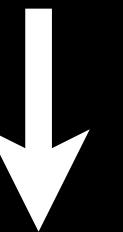
source code

```
#include <stdio.h>

int main(void)
{
    printf("hello, world\n");
}
```

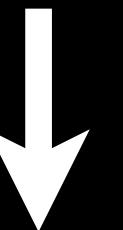
compiler

source code



compiler

source code



compiler



object code

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

...

when  clicked

say hello, world



```
int main(void)
{
    printf("hello, world\n");
}
```

functions



functions



```
printf("hello, world\n");
```

loops



loops



```
while (true)
{
    printf("hello, world\n");
}
```

loops



loops



```
for (int i = 0; i < 10; i++)  
{  
    printf("hello, world!\n");  
}
```

variables



variables



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

Boolean expressions

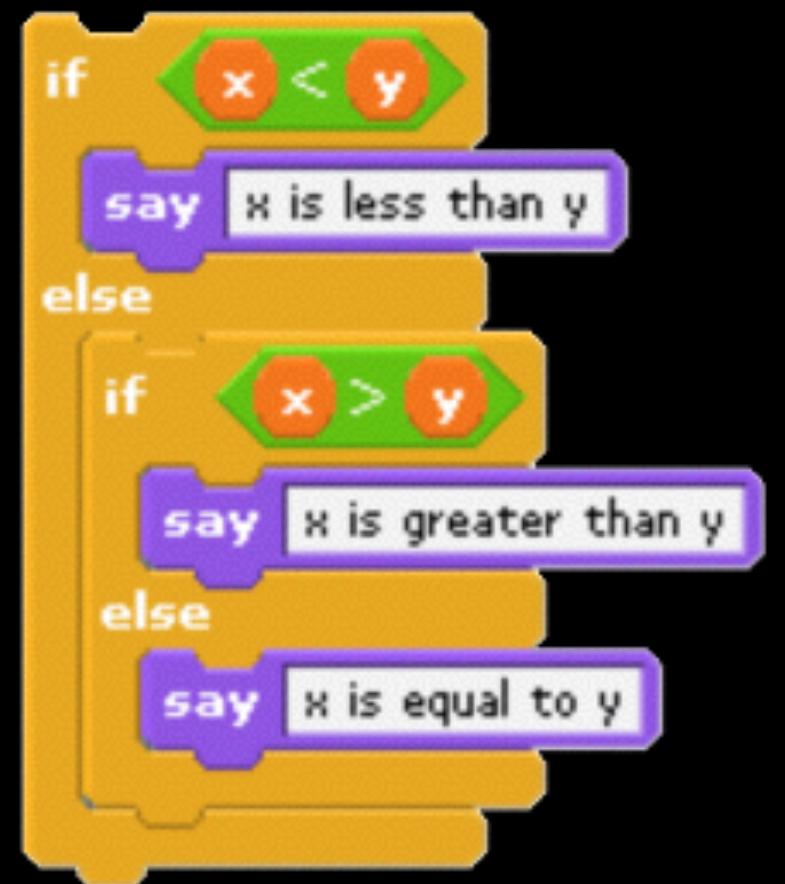


Boolean expressions

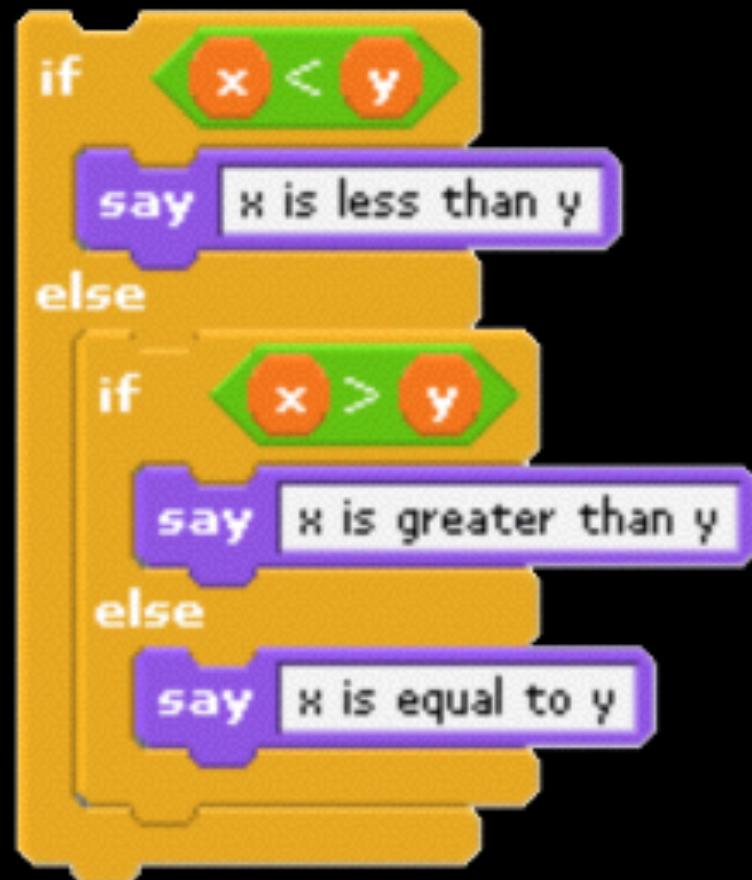


```
(x < y)  
((x < y) && (y < z))
```

conditions



conditions



```
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");
}
```

```
#include <stdio.h>

int main(void)
{
    printf("hello, world\n");
}
```

The screenshot shows the CS50 IDE interface. At the top, there's a toolbar with icons for file operations and a search bar indicating the URL <https://ide.c9.io/jharvard/ide50>. Below the toolbar is a menu bar with options: CS50 IDE, File, Edit, Find, View, Goto, Window, Support, and a Debug button.

The left sidebar is labeled "Workspace" and shows a folder named "ide50" containing two files: "hello.c" and "README.md".

The main area features a code editor window titled "hello.c" with the following C code:

```
#include <stdio.h>
int main(void)
{
    printf("hello, world\n");
}
```

Below the code editor is a terminal window titled "Terminal" with the prompt `jharvard@ide50:~/workspace $`.

On the right side of the interface, there are three buttons: "Collaborate", "Outline", and "Debugger".

CS50 IDE File Edit Find View Goto Window Support

✓ Less Comfortable



Editors ▶

Open Files

✓ Menu Bar

✓ Tab Buttons

✓ Gutter

Status Bar

✓ Console ^ Esc

Layout ▶

Terminal Font Size ▶

Font Size ▶

Themes ▶

Wrap To Print Margin

clang hello.c

./a.out

```
clang -o hello hello.c
```

./hello

make hello

./hello

