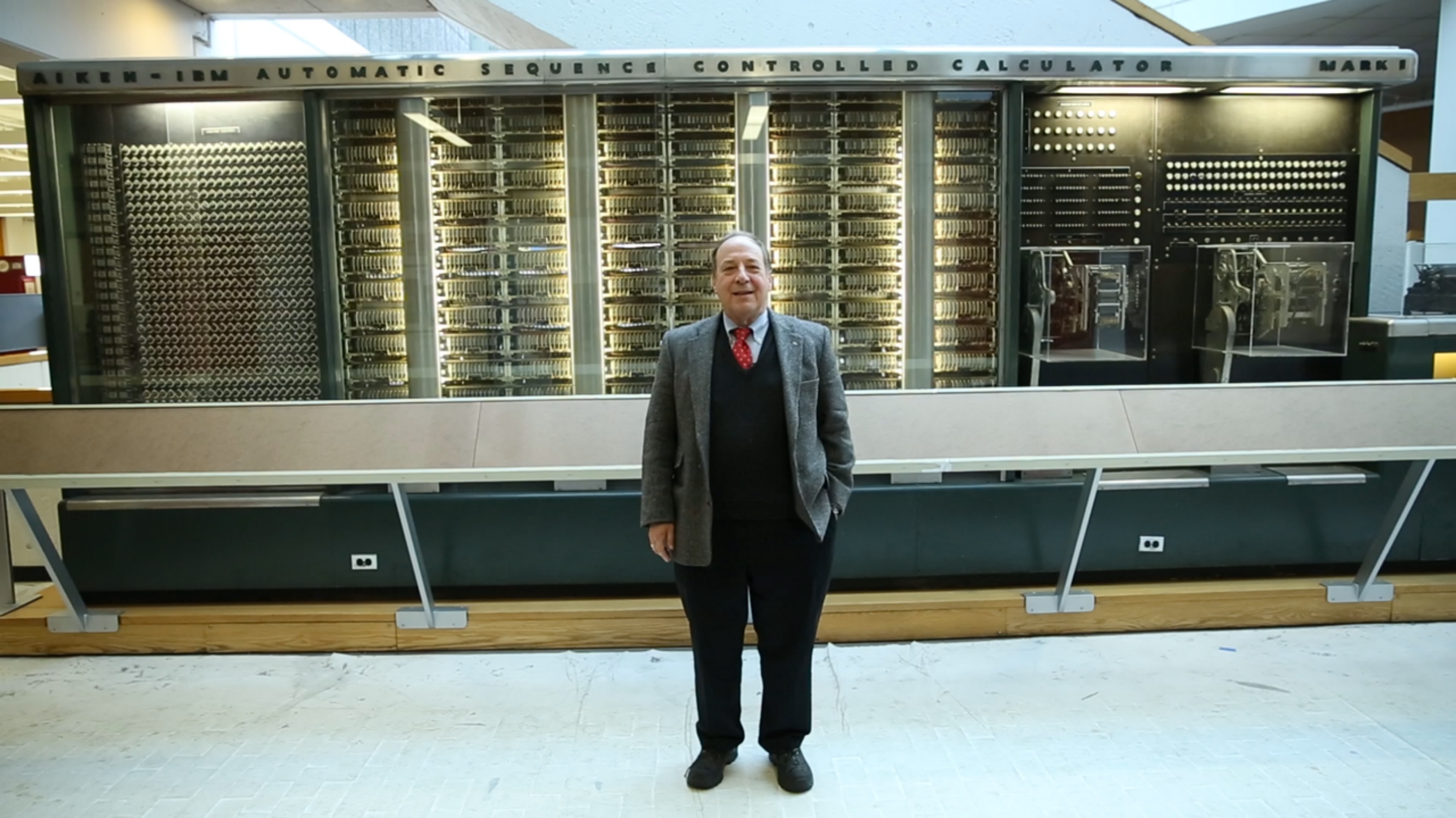
GIANT CALCULATOR SOLVES PROBLEMS IN MATHEMATICS


AIKEN-IBM AUTOMATIC SEQUENCE CONTROLLED CALCULATOR MARK I

9/9

0800 Arctan started

1000 " stopped - arctan ✓

{ 1.2700 9.037 847 025
9.037 846 795 correct

13" sec (032) MP - MC ~~1.982647000~~ ~~2.130476415 (-3)~~ 4.615925059(-2)

(033) PRO 2 2.130476415

correct 2.130676415

Relays 6-2 in 033 failed special speed test

In Relay " 10,000 test.

Relays changed

Relay 2145

Relay 3370

1100 Started Cosine Tape (Sine check)

1525 Started Mult + Adder Test.

1545 Relay #70 Panel F (moth) in relay.

First actual case of bug being found.

~~1[illegible]~~ 1630 Arctangent started.

1700 closed down.

http://en.wikipedia.org/wiki/Software_bug

/lectures

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

when clicked
say hello, world!

say
hello, world!

statements

functions

repeat
10

loops

mouse down?

Boolean expressions

if

conditions

conditions

sectioning

today through Fri

supersections

week 2

sections

week 3 onward

problem set 0

9 late days

office hours

code

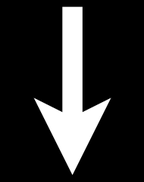
source code

```c
#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

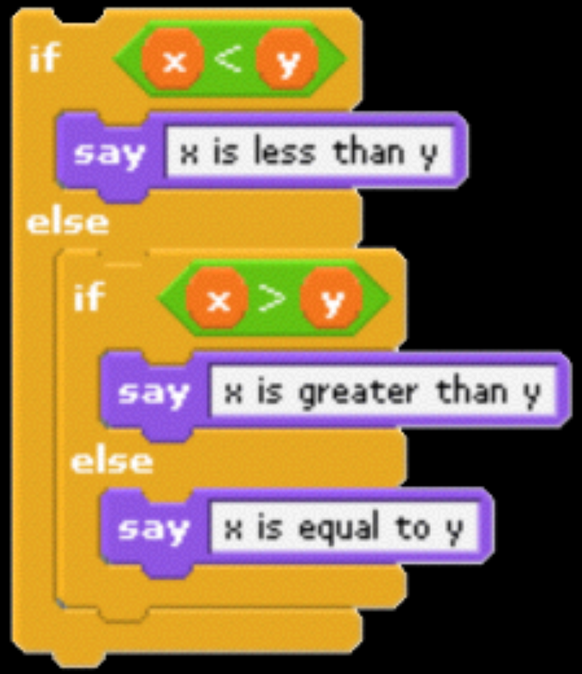
```
int counter = 0;
while (true)
{
    printf("%i\n", counter);
    counter++;
}
```

Boolean expressions

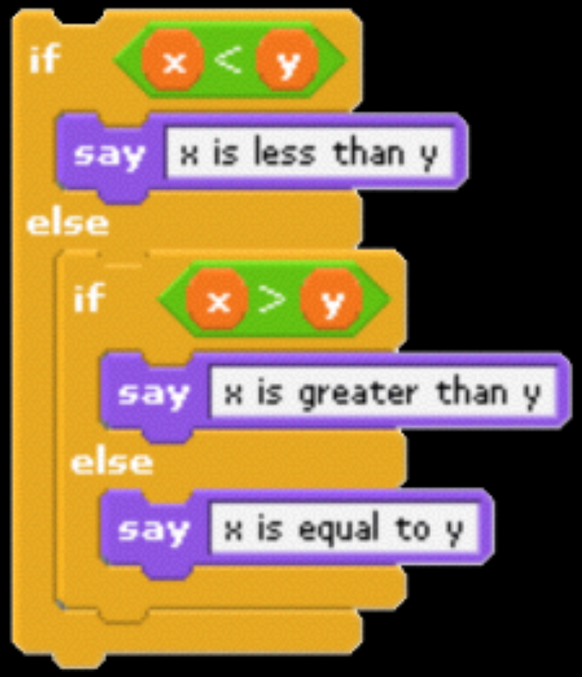
Boolean expressions

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

conditions


if
x < y
say
x is less than y
else
if
x > y
say
x is greater than y
else
say
x is equal to y

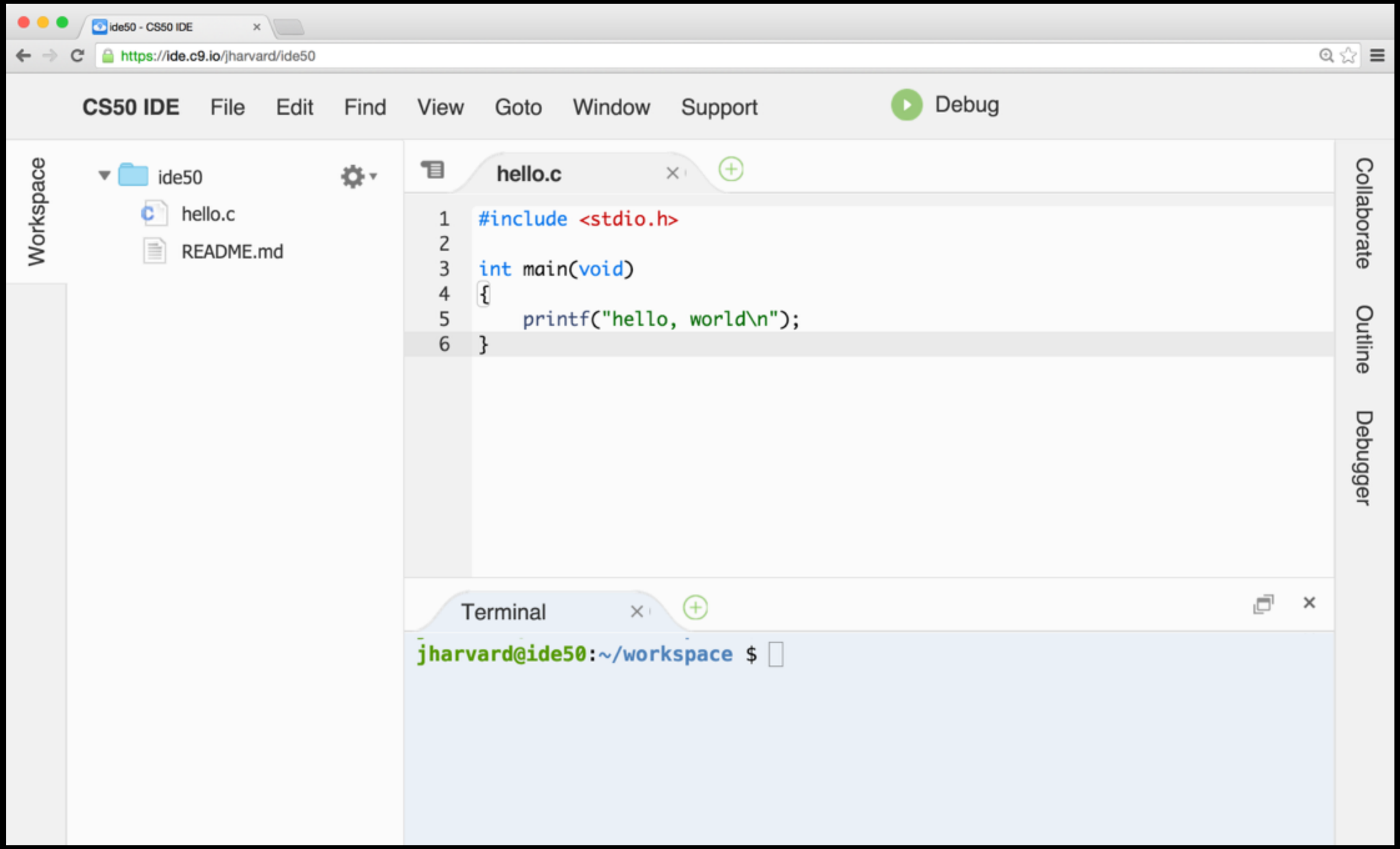
conditions

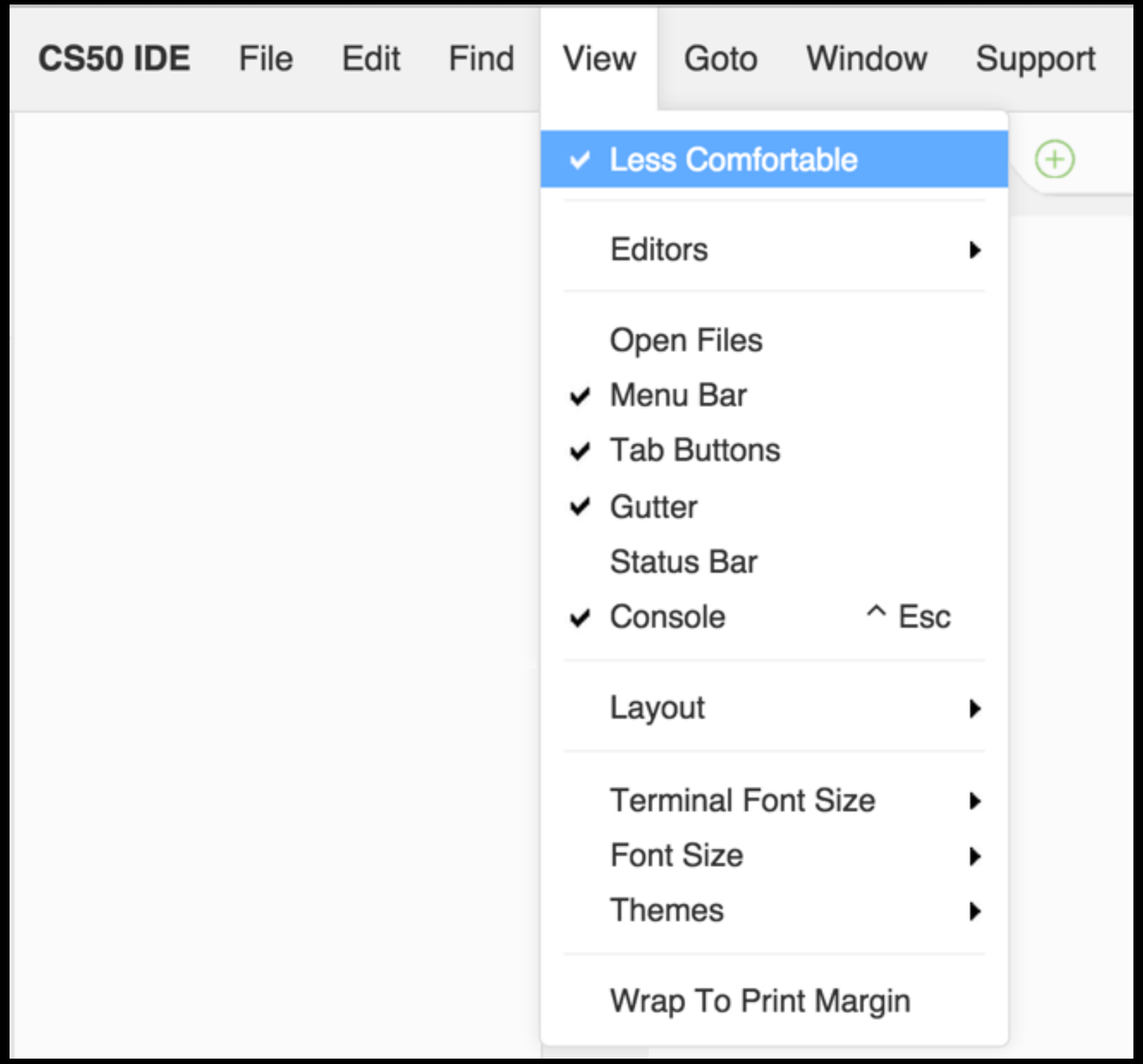



```
if (x < y)
{
    printf("x is less than y\n");
}
else if (x > y)
{
    printf("x is greater than y\n");
}
else
{
    printf("x is equal to y\n");
}
```

```c
#include <stdio.h>

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


ide50 - CS50 IDE
https://ide.c9.io/jharvard/ide50
CS50 IDE
File
Edit
Find
View
Goto
Window
Support
Debug
Workspace
ide50
hello.c
README.md
hello.c
1 #include <stdio.h>
2
3 int main(void)
4 {
5 printf("hello, world\n");
6 }
Terminal
jharvard@ide50:~/workspace $
Collaborate
Outline
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
```