This is CS50
EXPERIENCE THE a.r.t.
This is CS50
of CS50 students have never taken CS before
what ultimately matters in this course is not so much where you end up relative to your classmates but where you end up relative to yourself when you began
<table>
<thead>
<tr>
<th>Symbol</th>
<th>Name</th>
<th>Shares</th>
<th>Price</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>CASH</td>
<td></td>
<td></td>
<td>$10,000.00</td>
<td>$10,000.00</td>
</tr>
</tbody>
</table>

Data provided for free by IEX. View IEX's Terms of Use.
input $\rightarrow$ output
representation
decimal
base-10
binary
bits
100 × 1 + 10 × 2 = 123
100 × 1 + 10 × 2 + 1 × 3
$2^2 \quad 2^1 \quad 2^0$

# # # #
This is CS50
010000001
ASCII
| ASCII Code | Character | ASCII Code | Character | ASCII Code | Character | ASCII Code | Character | ASCII Code | Character | ASCII Code | Character |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 0         | NUL       | 16        | DLE       | 32        | SP        | 48        | 0         | 64        | @         | 80        | P         | 96        | `         | 112       | p         |
| 1         | SOH       | 17        | DC1       | 33        | !         | 49        | 1         | 65        | A         | 81        | Q         | 97        | a         | 113       | q         |
| 2         | STX       | 18        | DC2       | 34        | "         | 50        | 2         | 66        | B         | 82        | R         | 98        | b         | 114       | r         |
| 3         | ETX       | 19        | DC3       | 35        | #         | 51        | 3         | 67        | C         | 83        | S         | 99        | c         | 115       | s         |
| 4         | EOT       | 20        | DC4       | 36        | $         | 52        | 4         | 68        | D         | 84        | T         | 100       | d         | 116       | t         |
| 5         | ENQ       | 21        | NAK       | 37        | %         | 53        | 5         | 69        | E         | 85        | U         | 101       | e         | 117       | u         |
| 6         | ACK       | 22        | SYN       | 38        | &         | 54        | 6         | 70        | F         | 86        | V         | 102       | f         | 118       | v         |
| 7         | BEL       | 23        | ETB       | 39        | '         | 55        | 7         | 71        | G         | 87        | W         | 103       | g         | 119       | w         |
| 8         | BS        | 24        | CAN       | 40        | (         | 56        | 8         | 72        | H         | 88        | X         | 104       | h         | 120       | x         |
| 9         | HT        | 25        | EM        | 41        | )         | 57        | 9         | 73        | I         | 89        | Y         | 105       | i         | 121       | y         |
| 10        | LF        | 26        | SUB       | 42        | *         | 58        | :         | 74        | J         | 90        | Z         | 106       | j         | 122       | z         |
| 11        | VT        | 27        | ESC       | 43        | +         | 59        | ;         | 75        | K         | 91        | [         | 107       | k         | 123       | {         |
| 12        | FF        | 28        | FS        | 44        | ,         | 60        | <         | 76        | L         | 92        | \         | 108       | l         | 124       | |         |
| 13        | CR        | 29        | GS        | 45        | -         | 61        | =         | 77        | M         | 93        | ]         | 109       | m         | 125       | }         |
| 14        | SO        | 30        | RS        | 46        | .         | 62        | >         | 78        | N         | 94        | ^         | 110       | n         | 126       | ~         |
| 15        | SI        | 31        | US        | 47        | /         | 63        | ?         | 79        | O         | 95        | _         | 111       | o         | 127       | DEL       |
HI!

01001000 01001001 00100001
bytes
RGB
algorithms
<table>
<thead>
<tr>
<th>A</th>
<th>Albus</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Cedric</td>
</tr>
<tr>
<td>D</td>
<td>Draco</td>
</tr>
<tr>
<td>F</td>
<td>Fred</td>
</tr>
<tr>
<td>G</td>
<td>George</td>
</tr>
<tr>
<td>G</td>
<td>Ginny</td>
</tr>
<tr>
<td>H</td>
<td>Hagrid</td>
</tr>
<tr>
<td>H</td>
<td>Harry</td>
</tr>
<tr>
<td>H</td>
<td>Hermione</td>
</tr>
<tr>
<td>J</td>
<td>James</td>
</tr>
</tbody>
</table>
This is CS50
+1-949-468-2750
pseudocode
1   Pick up phone book
2   Open to middle of phone book
3   Look at page
4   If person is on page
5       Call person
6   Else if person is earlier in book
7       Open to middle of left half of book
8       Go back to line 3
9   Else if person is later in book
10      Open to middle of right half of book
11      Go back to line 3
12   Else
13   Quit
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7.   Open to middle of left half of book
8.   Go back to line 3
9. Else if person is later in book
10. Open to middle of right half of book
11. Go back to line 3
12. Else
13. Quit
- functions
- conditions
- Boolean expressions
- loops
● functions
● conditions
● Boolean expressions
● loops
● variables
● threads
● events
● ...

```c
#include <stdio.h>

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

say hello, world
say hello, world
input → algorithms → output
hello, world → algorithms → output
hello, world → say → output
ask What's your name? and wait
What's your name? → algorithms → output
What's your name? → ask and wait → output
What's your name? → ask and wait → answer
say join hello, answer
input → algorithms → output
hello, answer → join → hello, David
hello, David
hello, David
hello, David → say → 'hello, David'
abstraction
This is CS50