This is CS50

Week 2
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Today

• Compilation
• Arrays
• Strings
• Command-line Arguments
• Problem Set 2
Compilation
int main(void)
{
    print("Hello");
}

main:
# @main
    .cfi_startproc
# BB#0:
    push %rbp
.Ltmp0:
    .cfi_def_cfa_offset 16
...
Arrays
HELLO WORLD
HELLO

8 points
good morning ☀️ it's a new day!
how was last night? 🥵

how many hours did you sleep last night? *
75

how many times did you snooze your alarm this morning? * (hint: don't lie! 🥺)
2

how was your sleep last night? *
- BEST NIGHT EVER! ☑️
- good ☐
- eh...it was okay ☐
- not so good ☐
- not so great ☐
- didn't sleep a 

your morning mood? *
- 😊😊😊😊😊😊😊😊😊

what are your goals for today?
be brave, be bold, and be courageous!

did you have a dream last night? do you remember it?
record your dream last night if you remember :)
nights

| 7 | 8 | 6 | 7 | 8 |
nights[0]
nights[1]
nights[2]

| 7 | 8 | **6** | 7 | 8 |
nights

```
<table>
<thead>
<tr>
<th>7</th>
<th>8</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
```
nights

Name

| 7 | 8 | 6 | 7 | 8 |
nights

Size

7 8 6 7 8
nights

| 7 | 8 | 6 | 7 | 8 |

Type
int nights[5];
int nights[5] = {7, 8, 6, 7, 8};
Doubling Up

• Create an array of integers in which each integer is 2 times the value of the previous integer.
• The first element is 1.
• Print the array, integer by integer.
Strings
Hello

8 points
phrase

H E L L O
phrase[0]

H E L L O
phrase[1]
phrase[2]

H E L L O
<table>
<thead>
<tr>
<th>Character</th>
<th>Integer</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>65</td>
</tr>
<tr>
<td>B</td>
<td>66</td>
</tr>
<tr>
<td>C</td>
<td>67</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
</tr>
</tbody>
</table>
phrase

HELLO
phrase

\[
\begin{array}{ccccc}
72 & 69 & 76 & 76 & 79 \\
\end{array}
\]
Alphabetical

• Write a program to check if an array of characters is in alphabetical order.
• Assume the characters are all uppercase.
Command-line Arguments
$ ./mario
H: 8
int main(void)
{
    int height = get_int("H: ");
}

$ ./mario
H: 8
$ ./mario 8
$ ./mario 8

int main(int argc, string argv[])
{
}

argv

• Write a program that prints each command-line argument given to the program
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