This is CS50.
cs50.brianyu.me
Week 2

- Compiling
- Debugging
- Data Types
- Memory
- Arrays
- Strings
- Command-Line Arguments
What questions do you have?
Today

Arrays
Strings
Lab
PART ONE

Arrays
```cpp
int value = 28;

int values[5];
```
int values[5];
values[0] = 10;
values[1] = 20;
values[3] = 40;
Exercise

Write a program that takes 5 integers and prints them in reverse order.

$ ./reverse
Number 1: 5
Number 2: 10
Number 3: 15
Number 4: 20
Number 5: 25
25 20 15 10 5
PART TWO

Strings
int main(void)
{
    printf("%c\n", 'A');
}

int main(void)
{
    printf("%i\n", 'A');
}

## ASCII

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>...</th>
<th>Z</th>
</tr>
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<tbody>
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<td>65</td>
<td>66</td>
<td>67</td>
<td>68</td>
<td>69</td>
<td>...</td>
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<th>a</th>
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<td>97</td>
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<td>100</td>
<td>101</td>
<td>...</td>
<td>122</td>
</tr>
</tbody>
</table>
int main(void)
{
    printf("%i\n", 'A' + 1);
}

string name = "Hannah";
string name = "Hannah";
string name = "Hannah";
strlen
Exercise

Update your reverse program to take a string as input, and print out the reverse of the string.

$ ./reverse
Text: Hello!
!olleH
Command-Line Arguments
$ ./cash

$ make mario

$ clang -o hello hello.c
$ ./cash

$ make mario

$ clang -o hello hello.c
$ make mario
  argv[0]  argv[1]
$ ./cash
  argv[0]
$ clang -o hello hello.c
int main(void)
{
    ...
}

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

    Argument Count

    Argument Vector

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

Write a program `initials.c` that prints the initials of a name provided as command-line arguments.

```
$. ./capitalize rodrigo daboin sanchez
RDS
```
Modulo
Modulo

- \( a \% b \) returns the remainder when \( a \) is divided by \( b \)
PART THREE
Lab
int POINTS[] = {1, 3, 3, 2, 1, 4, 2, 4, 1, 8, 5, 1, 3, 1, 1, 3, 10, 1, 1, 1, 1, 4, 4, 8, 4, 10};

How many points is 'A' worth?  POINTS[0]
How many points is 'N' worth?  POINTS[13]
How many points is 'n' worth?  POINTS['n' - 'a']
Problem Set 2
Problem Set 2

• Readability
• One of:
  • Caesar
  • Substitution
This is CS50.