This is CS50.
Week 1

- C
- Compiling
- Strings
- Variables
- Types
- Loops
- Conditions
- Imprecision
- Overflow
What questions do you have?
Today

Variables and Types

Loops, Conditions, Functions

Lab
PART ONE

Variables and Types
#include <stdio.h>

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

```java
int x = 28;
```
Variables

```c
int x = 28;
```

variable name
Variables

```c
int x = 28;
```

type
Variables

```java
int x = 28;
value
```
Variables

int x = 28;
Variables

```java
int x = 28;
```
Variables

```c
int x = 28;
```

```
x = 50;
```
Variables

```c
int x = 28;
x = 50;
```
Variables

```java
int x = 28;
x = 50;
x = x + 1;
```

Variables

```
int x = 28;
x = 50;
x = x + 1;
```

```
Variables

```
int x = 28;
x = 50;
x += 1;
```

51
```
Variables

int x = 28;
x = 50;
x++;
```
Types

- bool
- char
- double
- float
- int
- long
- string
- ...

Getting Input

```cpp
int x = get_int("Number: ");
```
Printing Values

printf("Hello, world!");
Printing Values

```c
int x = 50;
printf("The value is %i", x);
```
Operators

```c
int x = 10 + 4;
```

\[ x \]

\[ 14 \]
Operators

```c
int x = 10 - 4;
```

X

6
Operators

```c
int x = 10 * 4;
```

40
Operators

int x = 10 / 4;
float x = 10.0 / 4.0;
CS50 IDE
PART TWO
Loops, Conditions, and Functions
if (x > 0)
{
    printf("x is positive\n");
}
Conditions

if (x > 0)
{
    printf("x is positive\n");
}
else
{
    printf("x is not positive\n");
}
Conditions

```c
if (x > 0)
{
    printf("x is positive
")
}
else if (x < 0)
{
    printf("x is negative\n");
}
else
{
    printf("x is 0\n");
}
```
Loops

```c
int x = 0;
while (x < 10) {
    printf("%i\n", x);
    x++;
}
```
Loops

for (int i = 0; i < 10; i++)
{
    printf("%i\n", i);
}
Loops

for (int i = 0; i < 10; i++)
{
    printf("%i\n", i);
}
Loops

```
for (int i = 0; i < 10; i++) {
    printf("%i\n", i);
}
```
Loops

for (int i = 0; i < 10; i++)
{
    printf("%i\n", i);
}

increment
Loops

for (int i = 0; i < 10; i++)
{
    printf("%i\n", i);
}
PART THREE
Lab
Problem Set 1
Problem Set 1

• Hello

• One of:
  • Mario (Less)
  • Mario (More)

• One of:
  • Cash
  • Credit
This is CS50.