

Add two numbers

- As a simple example MIPS program, we will add two numbers together, and store the result
- Program implementation in Python:

```
a = 1  
b = 2  
c = a + b
```

Adding two numbers in MIPS

Data section: define some global data that is used by the assembly program to avoid having to define it repeatedly

```
.data
# initialize addresses for data
num1: .word 1
num2: .word 2
result: .word 0
```

Text section: stores program code

Main: entry point for assembly program

```
.text
main:
# load numbers from RAM
lw $t0, num1
lw $t1, num2
# t2 = t0 + t1
add $t2, $t0, $t1
# store result back in RAM
sw $t2, result
```

System call: interact with operating system, ask OS to do something

```
# exit program via syscall
lw $v0, 10
syscall
```