

# Programming cont'd

IC152 Lecture 4  
Feb 2021

# Adding N numbers

- Sum of 6 integers:

4,1,7,-2,3,6

$$4+1+7-2+3+6 = 19$$

- Sum of 4 integers:

$$6+7+1+4 = 18$$

- This is fine for manual calculation, but not for machine

CPU can add only two numbers at a time \*

6,7,1,4

a=6

b=7

c=1

d=4

s1 = a+b

(s1 = 13)

s2 = s1+c

(s2=14)

s3 = s2+d

(s3=18)

How to add a hundred numbers?

## Pseudo-code

1. Let  $n$ ,  $sum$ ,  $x$  be integers
2. Read  $n$
3.  $Sum \leftarrow 0$
4. Repeat  $n$  times
  - 4.1 Read  $x$
  - 4.2  $Sum \leftarrow sum + x$
5. Print  $n$ ,  $sum$

## Python code

```
n = input("Enter n: ")
sum = 0
for i in range(int(n)):
    x = input("Enter x: ")
    sum = sum + int(x)

print("n = ", n, "
      sum = ", sum)
```



What is this for?

How do the variables  
change?

# Conditional statements

```
8  import math
9
10 x = int(input('Enter a number: '))
11 if x > 0:
12     print('The squareroot of ' + str(x) + ' is ' + str(math.sqrt(x)))
13
```

A conditional statement may result in a jump instruction

```
8  import math
9
10 x = int(input('Enter a number: '))
11 if x > 0:
12     print('The squareroot of ' + str(x) + ' is ' + str(math.sqrt(x)))
13 else:
14     print('The square root of ' + str(x) + ' is not defined')
15
```

```
9 x = int(input('Enter a number: '))
10 y = int(input('Enter another number: '))
11
12 if x < y:
13     print(str(x) + ' is less than ' + str(y))
14     print('Condition 1 is satisfied')
15 elif x > y:
16     print(str(x) + ' is greater than ' + str(y))
17     print('Condition 2 is satisfied')
18 else:
19     print(str(x) + ' is equal to ' + str(y))
20     print('Condition 3 is satisfied')
```

Blocks of code are **indented**

**HW:** Accept a character x from the user. If a day of the week starts with x, print the day. Else print "No day starts with x". Use your own mechanism to fix clashes.