

# Python Programming

## While Loops 2

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*Teaching, Training and Coaching since more than a decade!*

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# Let's sum $1 + 2 + 3 + 4 + 5$

```
4 x = 1
5 sum = 0
6
7 while x <= 5:
8     sum += x
9     x = x + 1
10
11 print(sum) # 15
```

- We can now make any complex logic that requires repetition!
- Let's trace the code

# Let's sum $5 + 4 + 3 + 2 + 1$

```
3
4  x = 5
5  sum = 0
6
7  while x >= 0:
8      sum += x
9      x -= 1
10
11 print(sum) # 15
```

- We can do the reverse: go from high to low

# Using break

```
3 while True:
4     x, y = map(float, input().split())
5     if y == 0:
6         print("Y is zero!")
7         break # STOP the loop. Jump to line 10
8
9     print(x / y)
10
11 print("Bye")
```

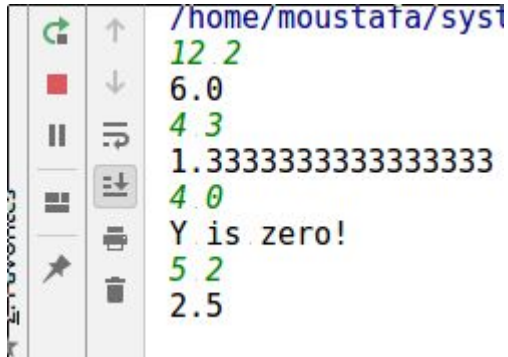
```
/home/moustafa/syster
5 6
0.8333333333333334
6 2
3.0
10 2
5.0
5 0
Y is zero !
Bye
```

- Write a program that KEEPs reading 2 numbers and print their float division
- If the 2nd number is zero
  - Print Bye
  - End the program
- We can use word break to stop the while and go AFTER it

# Using continue

```
3 while True:
4     x, y = map(float, input().split())
5     if y == 0:
6         print("Y is zero!")
7         continue # jump to line 3
8
9     print(x / y)
10
11 print("Bye")
```

- Continue tells computer to JUMP to the while start again and continue from there
  - So statements after it INSIDE the while body is skipped



```
/home/moustafa/syst
12 2
6.0
4 3
1.3333333333333333
4 0
Y is zero!
5 2
2.5
```

*“Acquire knowledge and impart it to the people.”*

*“Seek knowledge from the Cradle to the Grave.”*