


CSI31 Introduction to Computer Programming I



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History of Python language

- Development began in 1989, python 2 released in 2000, python 3 in 2008
- Programmer is Guido van Rossum
- Multi-paradigm - supports structured programming, procedural programming, object-oriented programming, functional programming
- Named for Monty Python
- <https://www.youtube.com/watch?v=anwy2MPT5RE>

Beginning to use Python

- Interpreter in interactive mode
- Integers, floating point numbers, strings
- Arithmetic operations: +, -, *, /, //, %, **
- Large number arithmetic
- Types
- string operation +
- Calling the print function

Define your own function and call it

Type in the Python shell -

```
def greet(person):  
    print("Hello, " + person + ".")  
    print("How are you?"
```

Press Enter twice.

Then type

```
greet("Sue")
```

What happened in the editor?

What happened?

Creating and using a module

- File | New File to open an editing window
- IDE or integrated development environment

Type this text and save it as the module chaos.py

```
#File: chaos.py
```

```
# A simple program illustrating chaotic behavior
```

```
def main():
```

```
    print("This program illustrates a chaotic function.")
```

```
    x = eval(input("Enter a number between 0 and 1:"))
```

```
    for i in range(10):
```

```
        x = 3.9*x*(1-x)
```

```
        print(x)
```

```
main()
```

Run the program chaos

One way:

Choose Run|Run Module from the editor window

Another way

In the shell, type `import chaos`

To run again, type `chaos.main()`

Python syntax and semantics

- Input function
- Eval function
- Assignment =
- For loop
- range function
- Define the main function, call it at the end

To install Python

Go to www.python.org and download an installer.

IDLE, simple integrated development environment that we use, comes with the interpreter.