Python 3.x Cheat Sheet

Sample code can be found at:
https://github.com/magdapoppins

Find me on Twitter:
https://twitter.com/magdapoppins

Variables

Defining a variable:

name = “Nina”

Printing the value of that variable to the console:

print(name)

You can also change that value later:

name = “Niilo”

Data types

Name	**Example values**
String	“Hello”, “test”, “123”
Int	2, 5, 100
Float	2,55, 7,544, 100,1
Boolean	True, False

Converting to other data types

```
# Converting string to int
age = int(input(“How old are you?”))

# Converting int to string
print(“I am “ + str(age) + “ years old.”)
```

Arrays

Arrays are collections of values. The values are surrounded by square brackets.

friends = [“Ana”, “Lee”, “Minna”, “Hasan”]

ages = [1, 3, 6, 3, 2]

friends.append(“Luke”)

tic_tac_toe = [[0, 0, 0],[0, 0, 0],[0, 0, 0]]

Indexing

The values of the array can be accessed by indexing. Indexes start from zero.

0	1	2	3
“Ana”	“Lee”	“Minna”	“Hasan”

friends[0] is “Ana”
friends[2] is “Minna”
friends[-1] is “Hasan”

friends[2:3] is [“Minna”, “Hasan”]
friends[1:] is [“Lee”, “Minna”, “Hasan”]
friends[:1] is [“Ana”]

Functions

Defining a function

```
def calculate_area(length, width):
    return length * width
```

Calling a function

```
# The function must be defined before you can call it.
area = calculate_area(2, 10)
```

Loops

For-loops

```
for name in friends:
    print(“Hello, “, name)

for i in range(10):
    print(“This is round:”, i)
```

While-loops

```
while True:
    hobby = input(“Tell me one of your hobbies!:”)
    hobbies.append(hobby)
```

Modules

Modules are ready made pieces of code that you can use in your own projects. They can be imported using the import keyword.

```
import my_module_name
```

Random

```
import random

my_random_number = random.randint(0, 10)

colors = [“green”, “blue”, “yellow”]

my_random_color = random.choice(colors)
```

OS

```
import os

if os.path.exists(‘C:/flowers.txt’):
        with open(‘C:/flowers.txt’, ‘w’) as flowerfile:
                flowerfile.writelines(“Hello?”)
```

Turtle

```
import turtle

jenny = turtle.Turtle()
my_screen = turtle.Screen()

my_screen.bgcolor(“cyan”)

jenny.forward(100)
jenny.left(90)

jenny.goto(x, y)
jenny.circle(r)
```

```
jenny.penup()
jenny.pendown()

jenny.pencolor("green")
jenny.color("hotpink")
jenny.beginfill()
jenny.endfill()
```

See: https://docs.python.org/3/library/turtle.html

PyGame

```
import pygame

pygame.init()

display = pygame.display.set_mode((100, 100))

character_image = pygame.image.load('cat.png')

def character(x, y):
    display.blit(character_image, (x, y))

while True:
    for event in pygame.event.get():
        if event.type == pygame.QUIT:
            pygame.quit()
            quit()

    display.fill((255,255,255))
    character(50, 50)
```

See: https://www.pygame.org/

Command line

Step backwards
cd ..

Step into directory
cd my-directory

List contents
ls

Make a new directory
mkdir my-new-directory

Git and version control

Initialize repository
git init

Check repository status
git status

Add all content to coming commit
git add .

Make a commit
git commit -m “What you did.”

Push to remote
git push