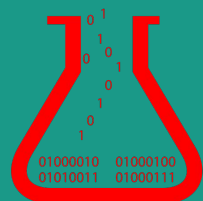# Intermediate Concepts

Printing and Formatting

print()

```python
# Printing strings
print("Hello World!")

[out] Hello World!
```

print()

```
# Printing Variables
x = "Hello World!")
print(x)

[out] Hello World!

x=4
print(x)
# Print converts them to strings, if they are not

[out] 4
```

print()

# changing the ending
print("Hello",end='')
print(" World!")

[out] Hello World!

Note: the default end character is a newline ('\n')

Format Mini-Language

x = "Hello {}!"
print(x.format('World'))

[out] Hello World!

Format Mini-Language

x = "Hello {}!"
print(x.format(3.1415))

[out] Hello 3.1415!

Format Mini-Language

```
x = "Hello {:.2f}!"
print(x.format(3.1415))
```

[out] Hello 3.14!

Format Mini-Language

x = "Hello {name:.2f}!"
print(x.format(name=3.1415))

[out] Hello 3.14!

Format Mini-Language

https://www.digitalocean.com/community/tutorials/how-to-use-string-formatters-in-python-3

Print Statements - Escape Characters

- Printing special characters in Python like quotes " or ' or a backslash \

  - Need to be 'escaped' with a preceding backslash \

  - If you want to print:

    - print("Have a "nice" day!") -> Python thinks the quotes are the end/beginning of new strings

    - Can do:

    - print("Have a \"nice\" day!") -> Have a "nice" day!

- Can also add special characters to a print statement:

  - \n = newline, \t = tab (there are more)

  - print("Have a \n nice day!" -> Have a
                                              nice day!

Continue Line

- In PEP8, the suggested line length for coding in Python is <80
  - Backslash ("\") can be used anywhere to carry the code to the next line
  - Example to concatenate strings:

    >> print("Use a line break " + \

    "so that the extra lines do " + \

    "not interrupt the flow of the code")

- **Output:** Use a line break so that the extra lines do not interrupt the functionality of the code

    beware of handling spaces in strings!

Exercise

1) *Use a print statement, escape characters to print exactly this.*

"The goal is to turn data into information, and information into insight."

     – Carly Fiorina

      former executive, president, and chair of Hewlett-Packard Co.

(note the indentation/tabs)

2)) *store the output of 1 and use slicing and concatenation to print this 300x.*

CF CF CF CF CF CF CF CF

Questions?

Contact:

**Denis Vrdoljak
denis@bds.group**