PYTHON : BASICS I

print() Output data to the console

```
# Print any text or variable
print('Hello World')
print(1000)
print(True)

# Even expressions can be printed
print(2 + 2) # Output: 4
```

Comments Used for documentation

```
username = 'Lovelace' # I'm a comment
```

Variables Store data for later use

```
acceleration = 'Δ velocity/ Δ time'
gravity = 9.81

print(gravity)    # Output: 9.81
```

Data Types Specify the type variable

```
# Integer
secret_number = 42

# Float
pi = 3.14

# String
greeting = 'Hi bestie!'

# Boolean
earth_is_flat = False
```

Arithmetic Operations Everyday math operations

```
# Addition
sum = 10 + 12
# Subtraction
difference = 30 - 8
# Multiplication
product =  24 * 0.75
# Division
quotient = 81 / 9
# Modulus
remainder = 76 % 4
# Exponents
exponent = 2 ** 3
```

input() Grab user input

```
username = input('Enter your name: ')
age = int(input('Enter your age: '))
```

Control Flow Test condition for truth

```
if grade >= 90:
  print('A')
elif grade >= 80:
  print('B')
elif grade >= 70:
  print('C')
else:
  print('D')
```

Relational Operators Compare two values

```
a == b  # Equal to
a != b  # Not equal to
a < b   # Less than
a <= b  # Less than or equal  to
a > b   # Greater than
a >= b  # Greater than or equal to
```

Logical Operators Combine two conditions

```
a and b # True if both are True
a or b  # True if at least one is True
not a   # True if a is False
```

Random Generate a random number

```
import random
num = random.randint(1, 9)
```

Loops Run code over and over

```
# While loop
while(coffee < 1):
  print('Tired')

# For loop
for i in range(10):
  print(i)
```