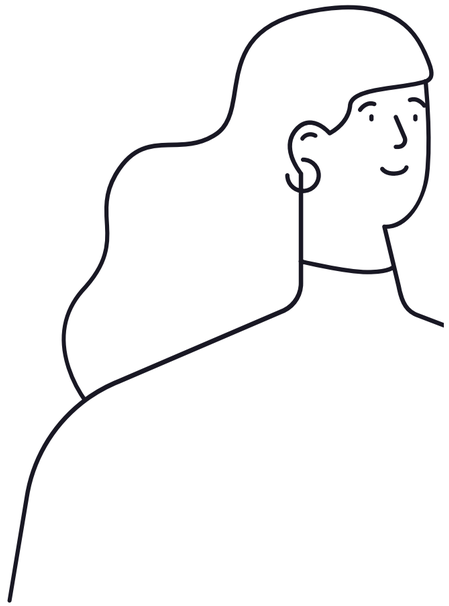
Welcome Everyone!

We will wait for others to join in!

KNOW ABOUT ME:



We Will start in 10

Python Basics

With Aaryan Kapur

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1! Aniket E18CSE004 abhejdk

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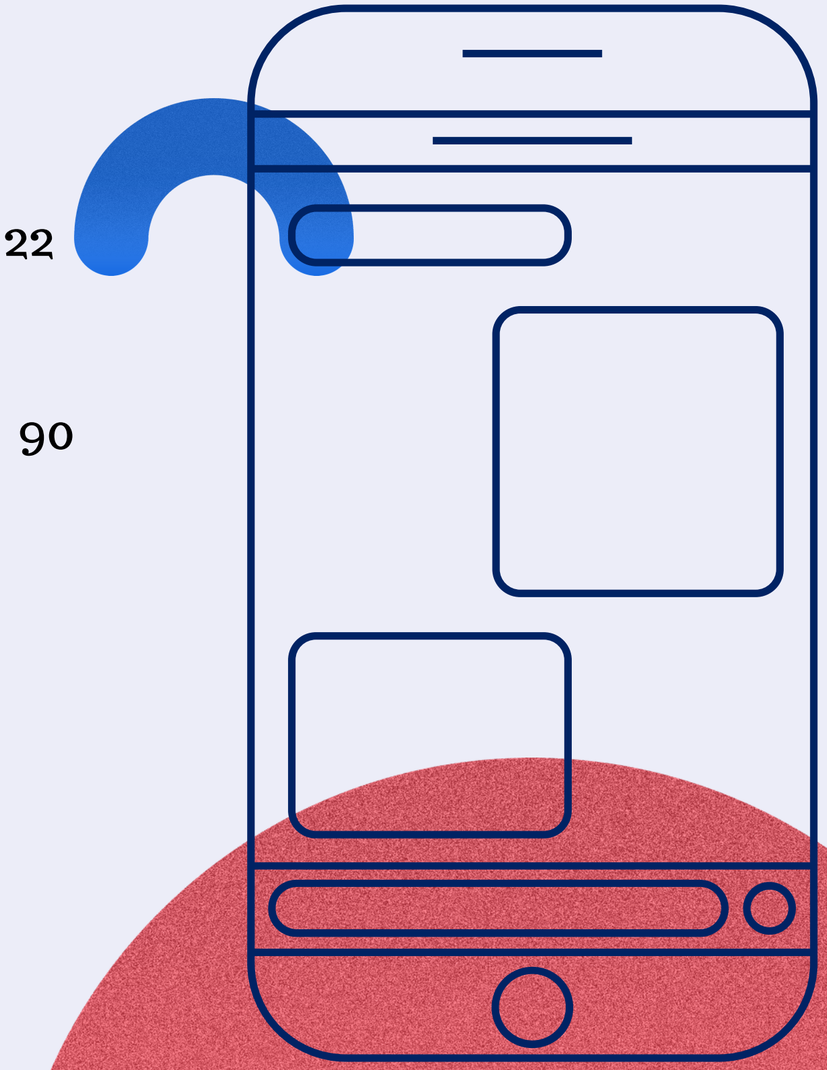
Variables?



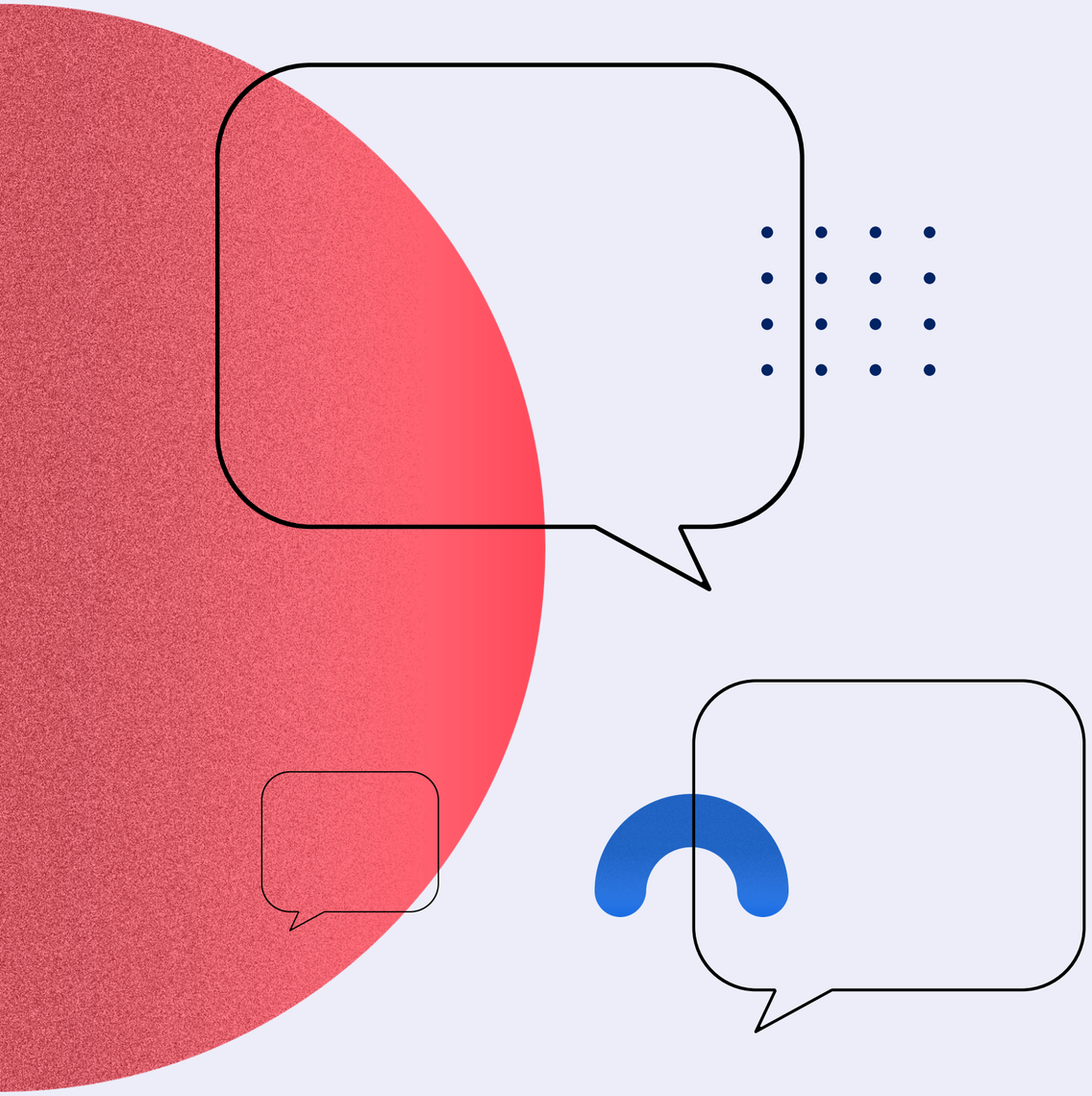
RULES FOR VARIABLE NAMING

- A variable name must start with a letter or the underscore character
- A variable name cannot start with a number
- A variable name can only contain alpha-numeric characters and underscores (A-z, 0-9, and _)
- Variable names are case-sensitive (age, Age, and AGE are three different variables)

myVarNew	Camel Casing	Each word, except the first, starts with a capital letter
MyVarNew	Pascal Casing	Each word begins with a capital letter.
my_var_new	Snake Casing	Each word is separated by an underscore.
my-var-new	Kebab Casing	Each word is separated by a hyphen.

Types of Variables

- **Strings**
- **Integer**
- **Float**
- **Complex**
- **Boolean**



Let's look into

STRINGS

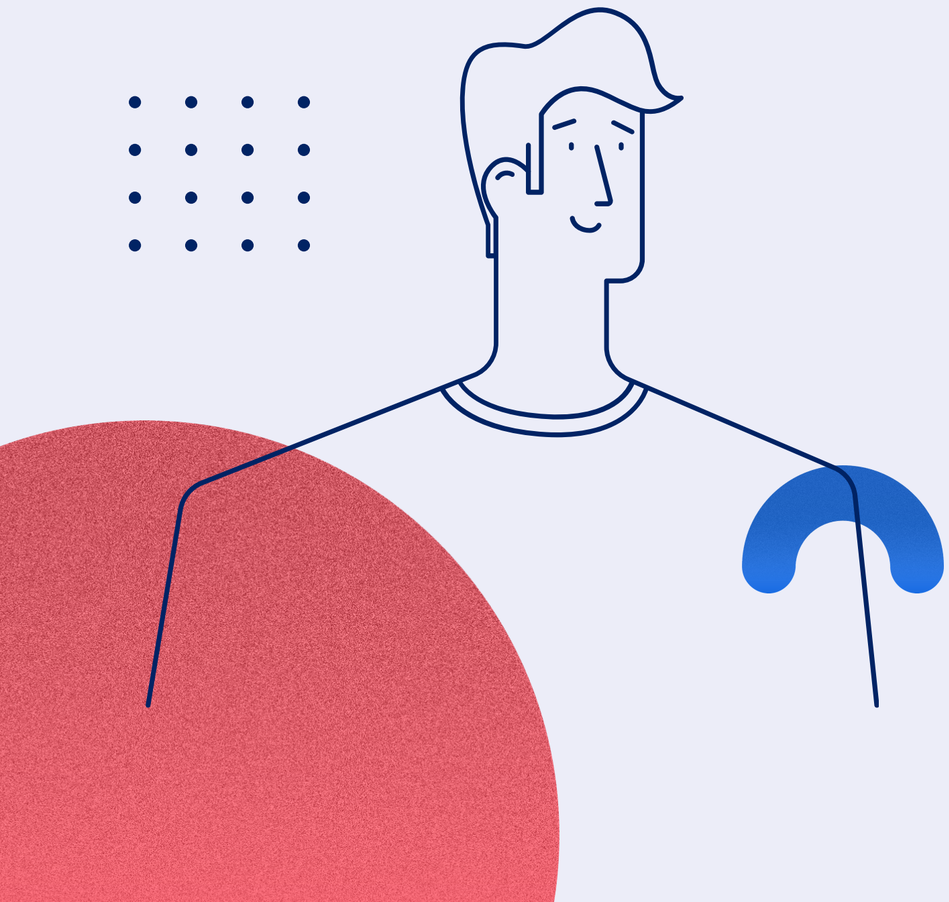
STRINGS

Eg. Hello World Aaryan Kapur E18CSE004

```
myString = "Python Programming"

print(myString[0])          P
print(myString[-1])         g
print(myString[0:3])        Pyt
print(myString[0:])         Python Programming
print(myString[:3])         Pyt
print(myString[:])          Python Programming
```

STRING OPERATIONS

```
myString = "Python Programming"
```



Find Length of String

```
len(myString)
18
```

Splitting a String

```
print(myString.split(" "))
['Python', 'Programming']
```

Upper Case

```
print(myString.upper())
PYTHON PROGRAMMING
```

Lower Case

```
print(myString.lower())
python programming
```

Print in next Line

```
print("Hello \nBye")
Hello
Bye
```

Concatenate Strings

```
a ="Rocks"
print(myString + " " + a)
Python Programming Rocks
```

CONTINUED: STRING OPERATIONS

```
myString = "Python Programming"
```

Find in String

```
print(myString.find("thon"))
2
```

Find Count in String

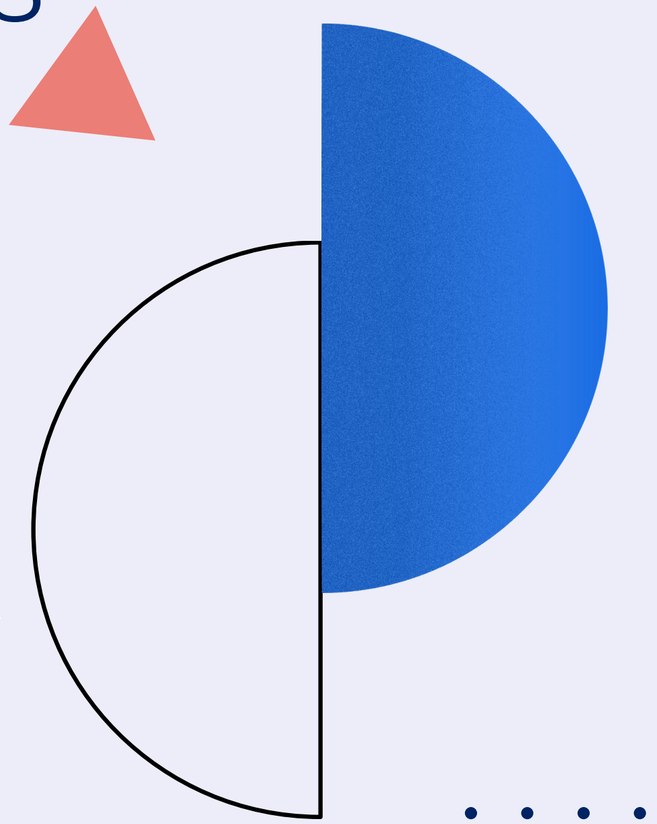
```
print(myString.count("Py"))
1
```

Replace Characters

```
print(myString.replace("y","g"))
Pgthon Programming
```

Multiline String

```
a = """
Hello bye, lorem ipsum dummy
text!
"""
```

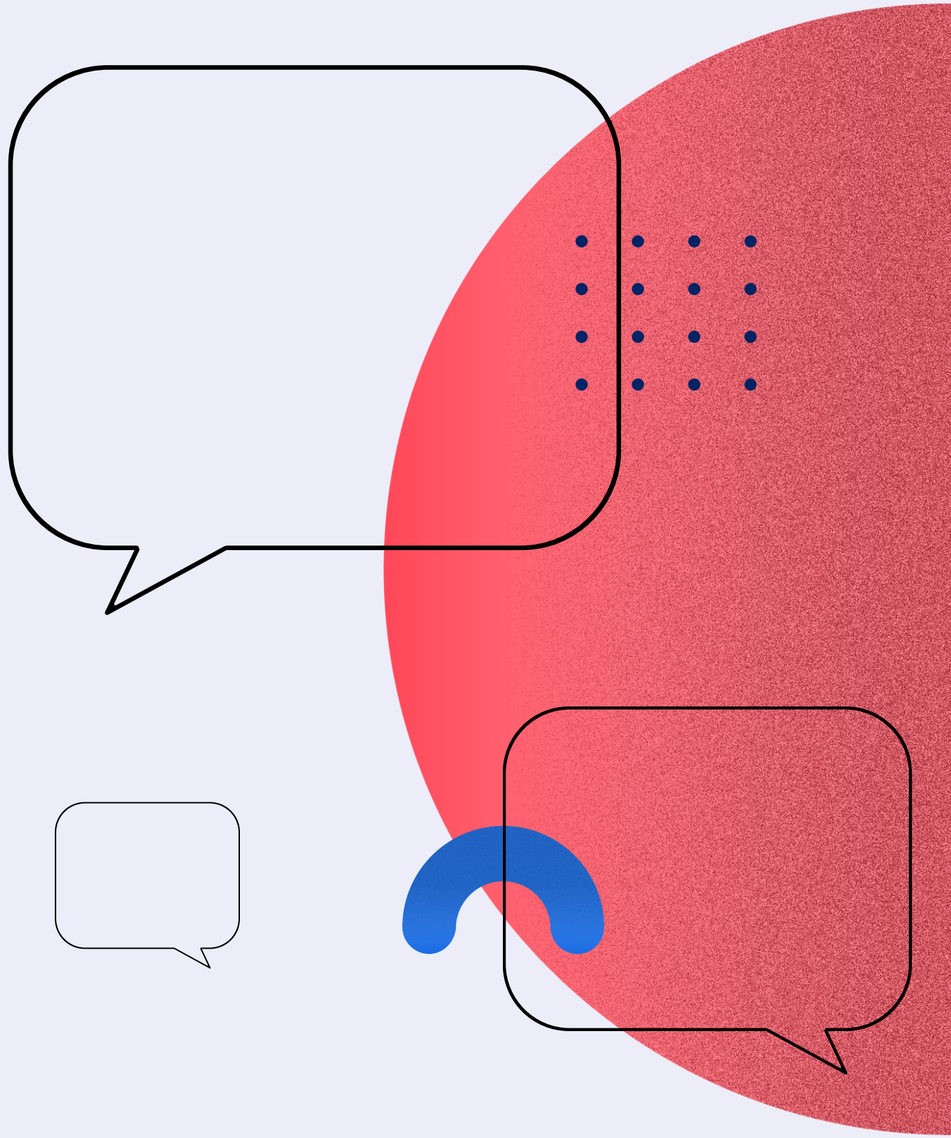


Strip: Remove spaces in the beginning and the end

```
print(myString.strip())
python programming
```

Let's look into

INTEGERS

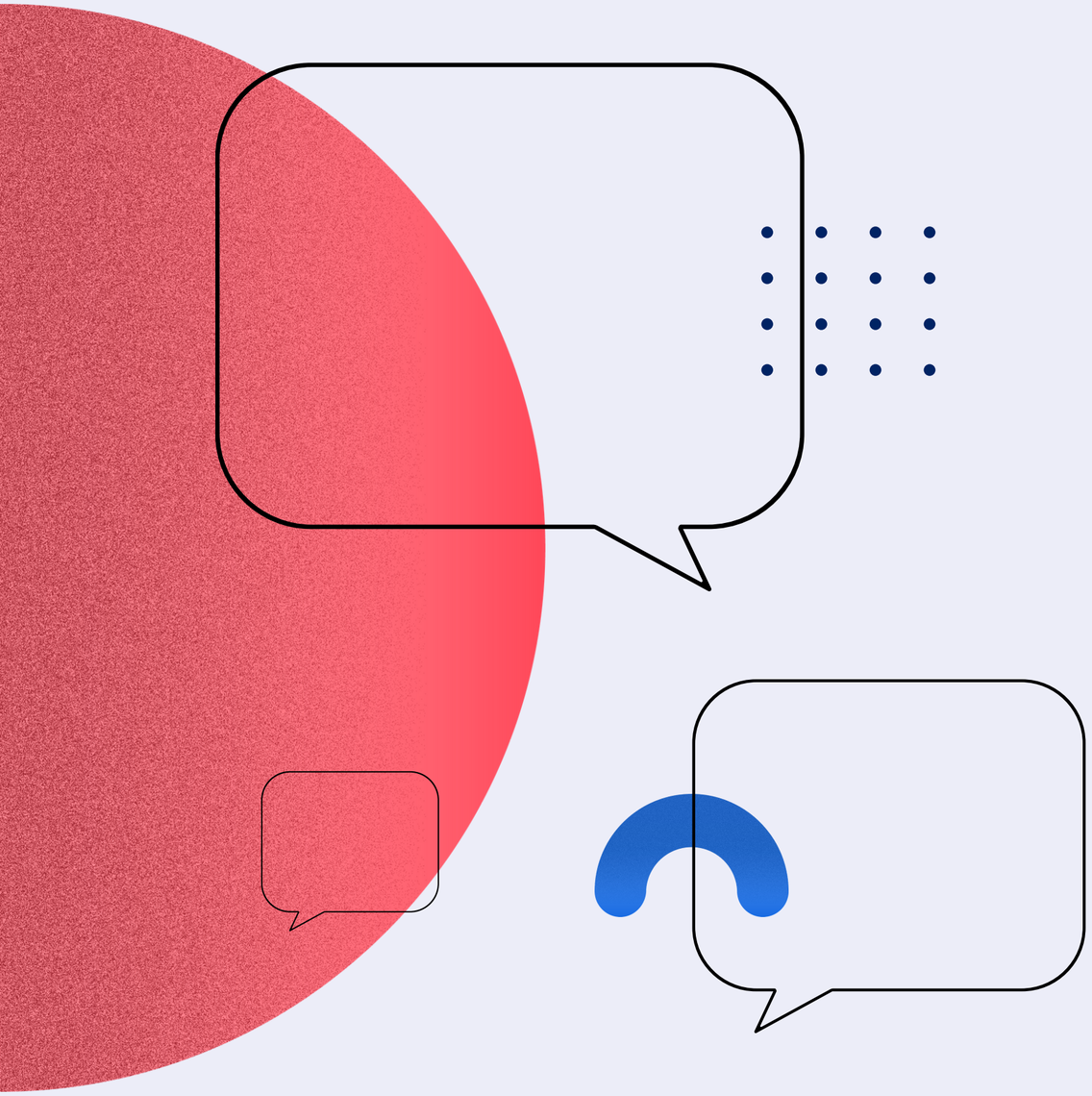


INTEGERS

```
myInteger = 90

print(myInteger + 2)    92

print(myInteger - 2)    88

print(myInteger * 2)    180

print(myInteger / 2)    45

print(myInteger % 2)    0
```

INTEGERS CAN BE USED FOR:

- Phone Number
- Price (Rounded Off)
- Speed (Absolute)
- Height (Absolute)
- Weight (Absolute)
- Profit/Loss (Absolute)
- etc.....

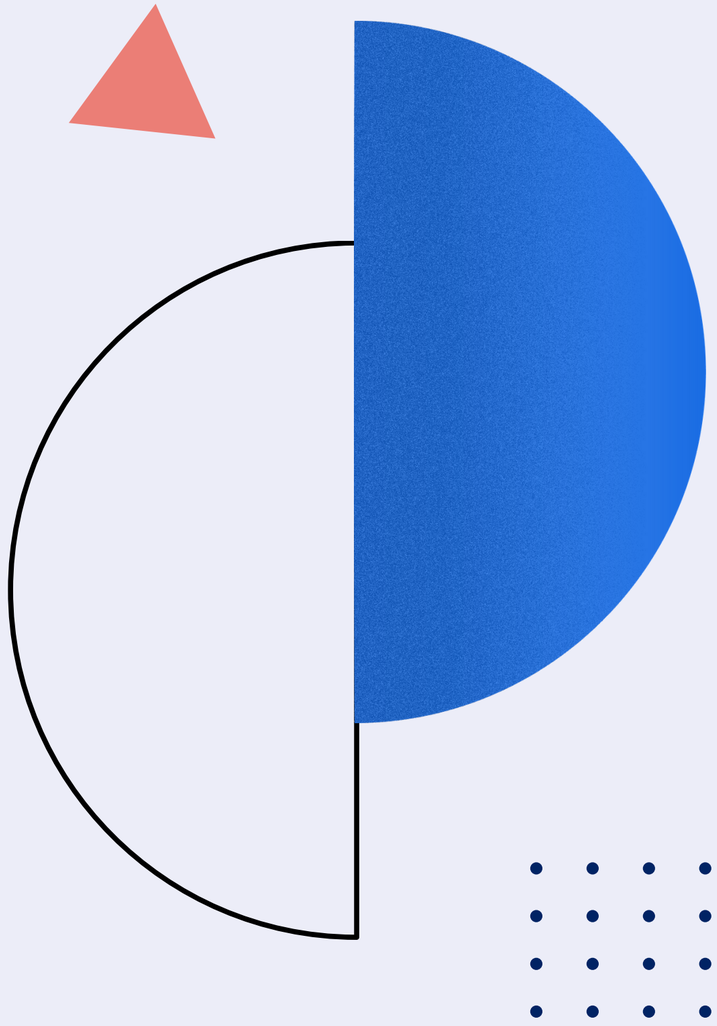


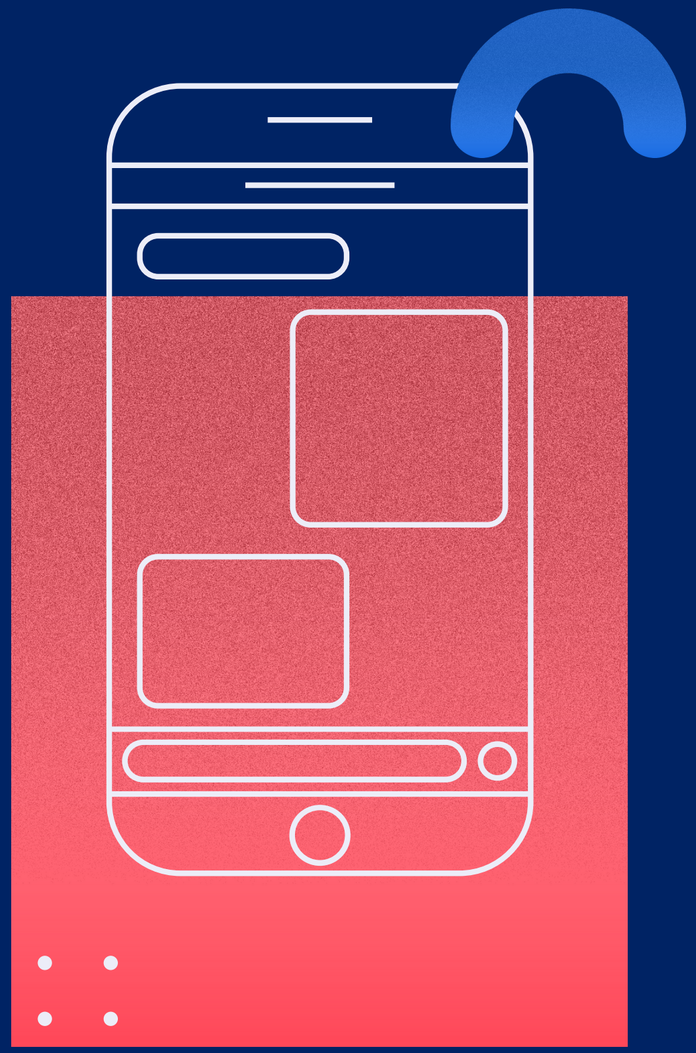
Let's Look into

FLOATS

FLOAT TYPE

```
myInteger = 90.2

print(myInteger + 2)   92.2

print(myInteger - 2)   88.2

print(myInteger * 2)   180.4

print(myInteger / 2)   45.1

print(myInteger % 2)   0.2
```



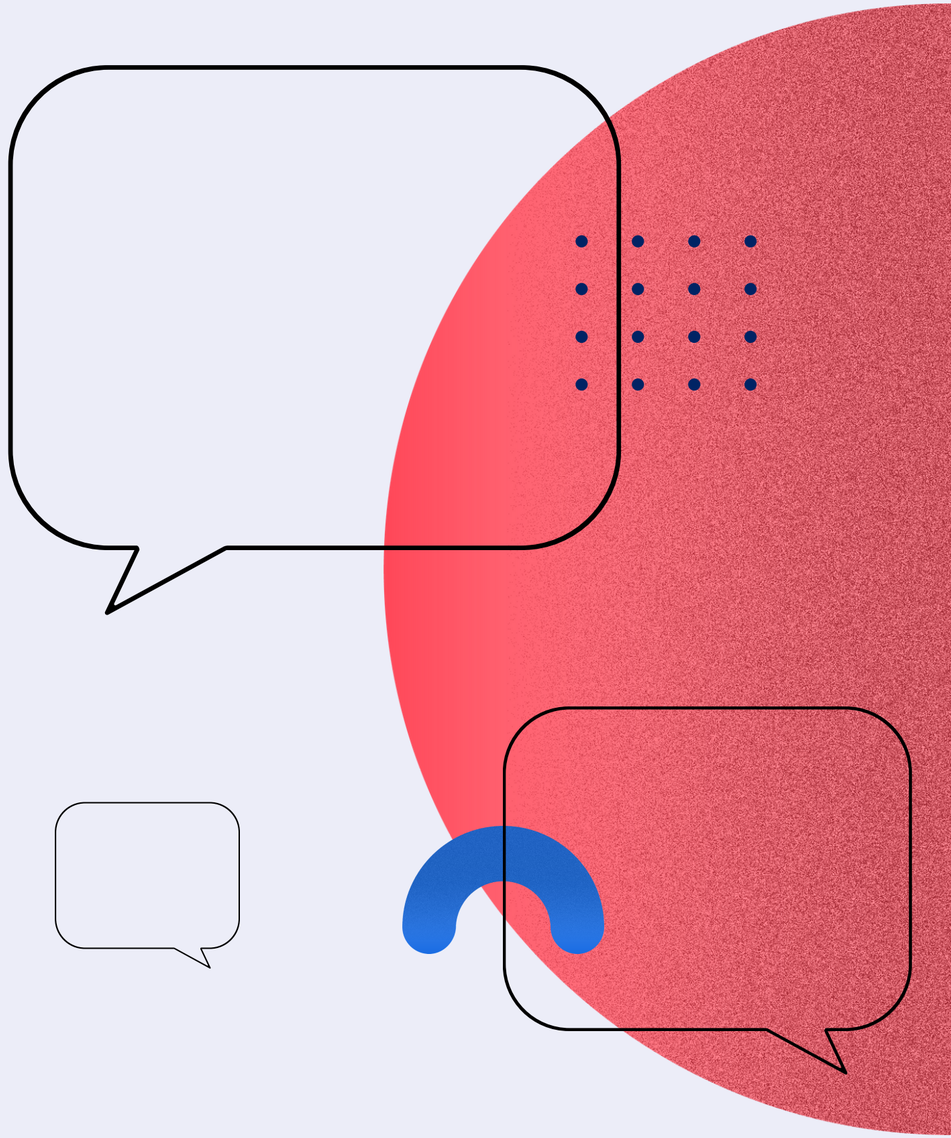


FLOAT CAN BE USED

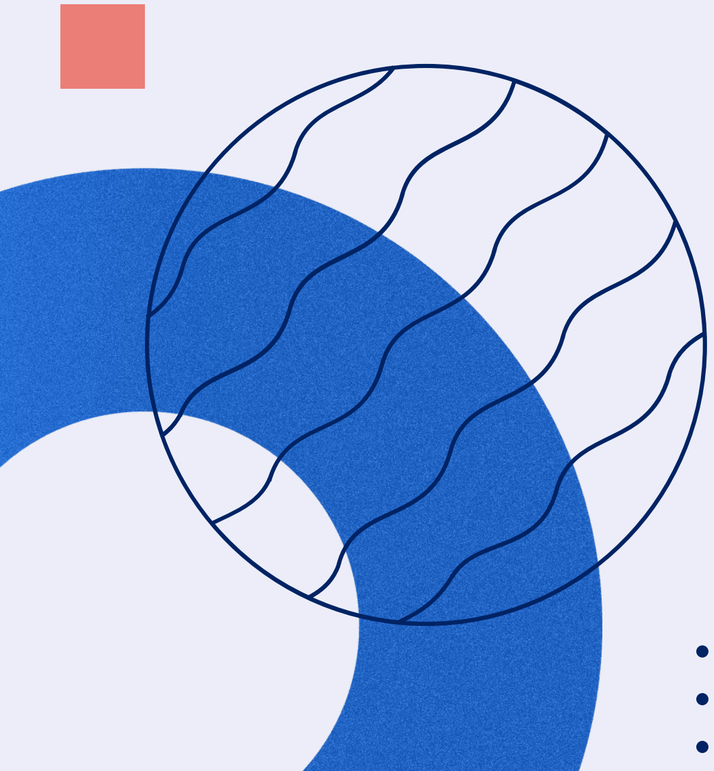
- Money (with Paisa)
- Speed (With Smaller Unit)
- Height (With Smaller Unit)
- Weight (With Smaller Unit)
- Profit/Loss (With Smaller Unit)
- etc.....

Let's Look into

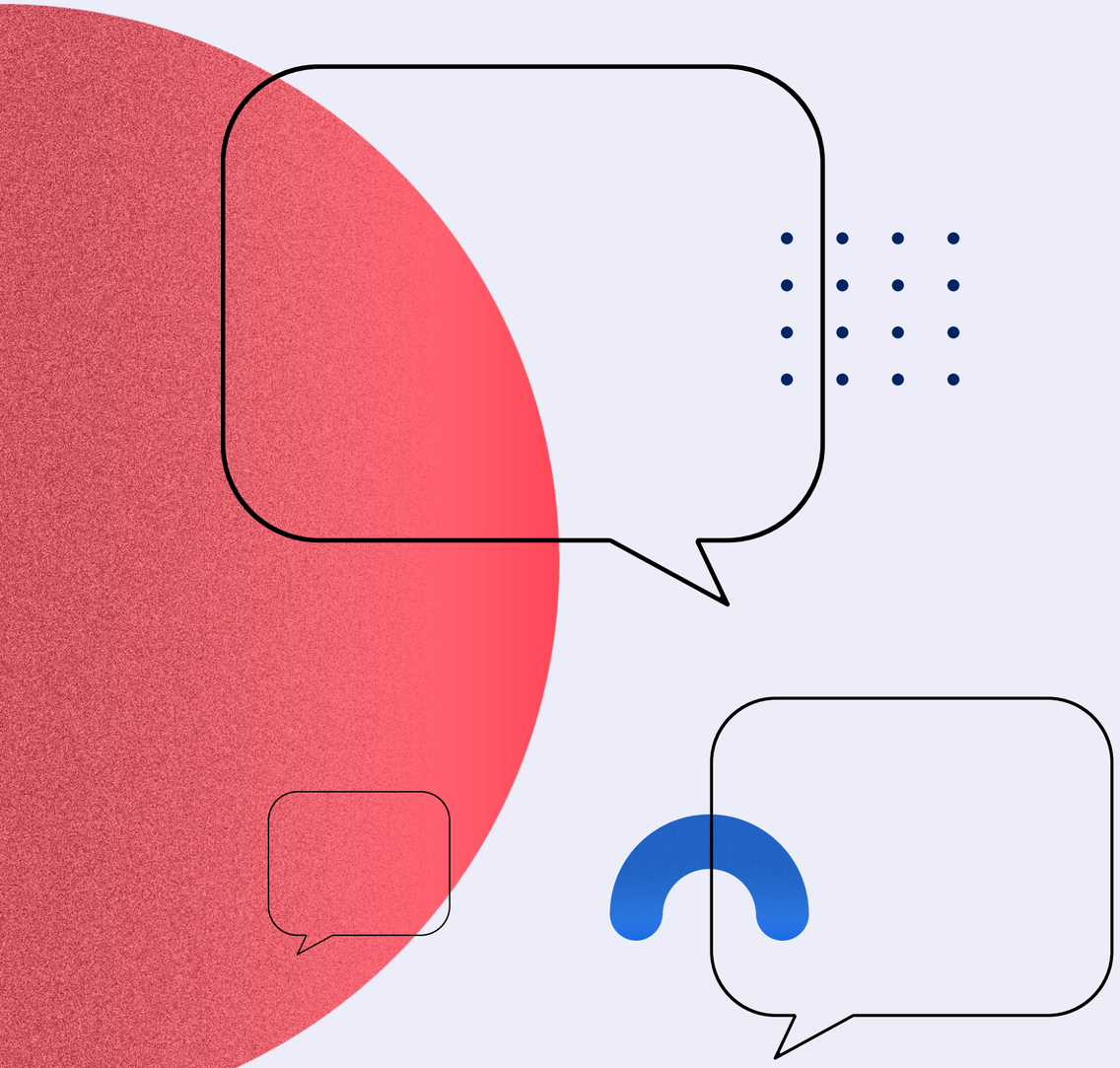
COMPLEX



COMPLEX TYPE



```
myInteger = 1 + 2j

print(myInteger + 2)      3 + 2j

print(myInteger - 2)      -1 + 2j

print(myInteger + 2j)     1 + 4j

print(myInteger - 2j)     1 + 0j
```



Let's look into

BOOLEAN

BOOLEAN

Tells you

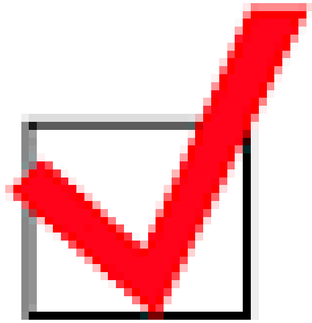
TRUE | FALSE
for
questions/conditions

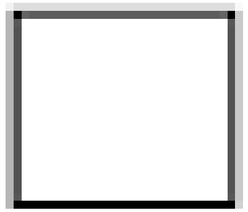
```
myInteger = True
print(myInteger)
True
```

```
myInteger = True
print(not myInteger)
False
```

True

False





USES OF BOOLEAN

- Conditional
- Eligibility
- Gender
- Availability
- etc.....

CONVERT TYPES

Convert STRING to INT

```
myString = "9090"
print(int(myString))
```

9090

Convert FLOAT to INT

```
myFloat = 90.90
print(int(myFloat))
```

90

Convert INT to Float

```
myInteger = 90
print(float(myInteger))
```

90.0

Convert INT to Complex

```
myInteger = 90
print(complex(myInteger))
```

90 + 0j

String Character to ASCII

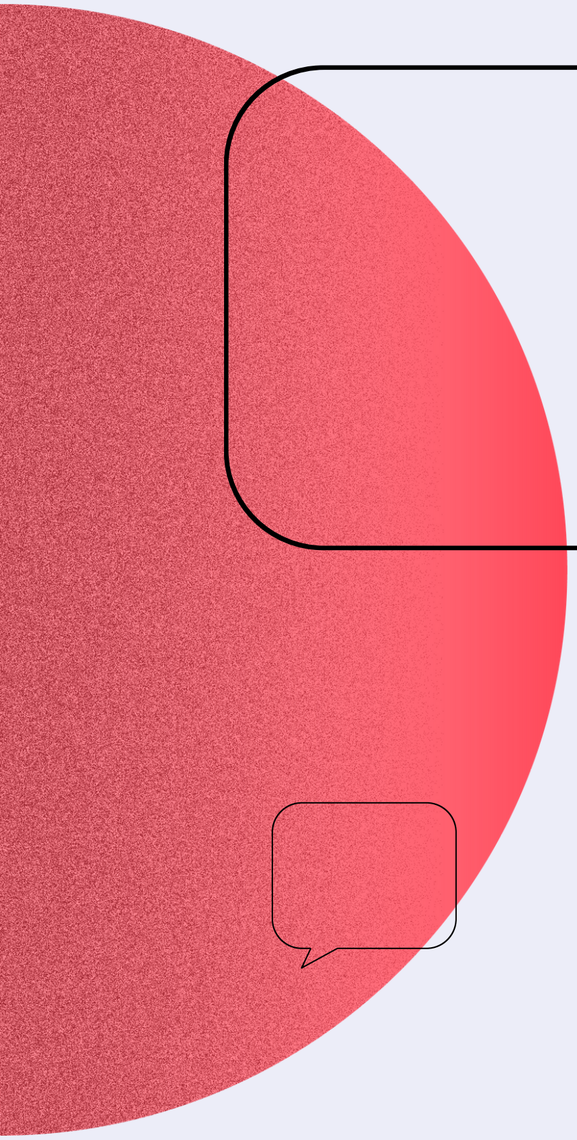
```
myCharacter = "a"
print(ord(myCharacter))
```

97

ASCII to String Character

```
myASCII = 97
print(chr(myASCII))
```

a



Let's look into

TAKING INPUT

WHY TAKE USER INPUT?

User input enables our system and to be openly usable and dynamic in nature, based on preferences and values provided by the user!

What can be done:

You can ask anything you want!

- Build a calculative question
- Ask for details
- Ask for information in a form
- Make an information retrieval system

How to take user Input

```
a = input("enter details: ")
```
Taking input as String

```
a = int(input("enter details: ")
```
Taking input as Integer

```
a = float(input("enter details: ")
```
Taking input as Float

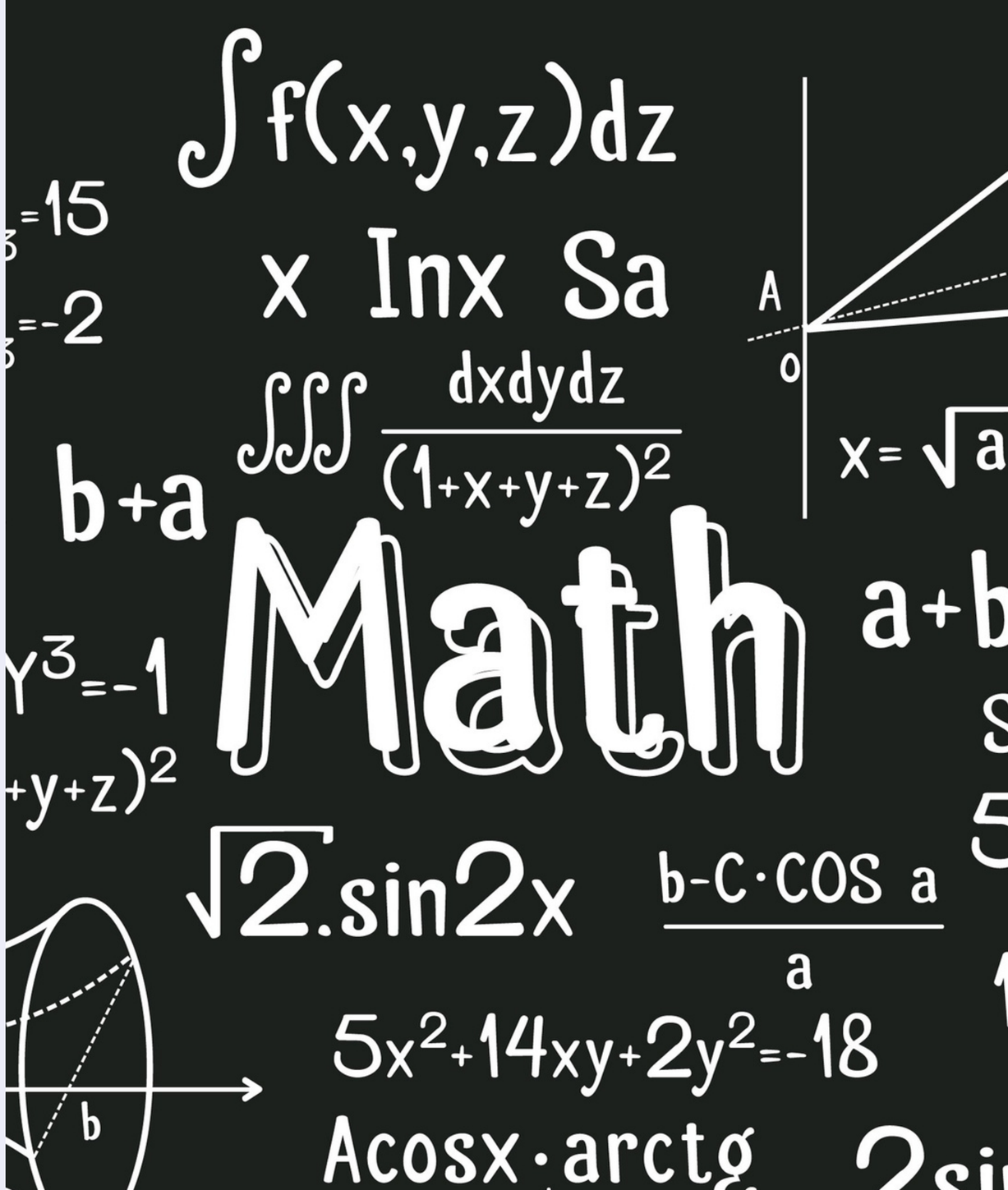
```
a = complex(input("enter details: ")
```
Taking input as Complex

MATH FUNCTIONS

+	Addition	x + y
-	Subtraction	x - y
*	Multiplication	x * y
/	Division	x / y
%	Modulus	x % y
**	Exponentiation	x ** y
//	Floor division	x // y

For More:

```
import math
```



SOME IMPORTANT MATH FUNCTIONS

a = 902.22 b = 4

Find Ceiling Value

```
print(math.ceil(a))
903
```

Find Floor Value

```
print(math.floor(a))
902
```

Find Trignometric Value

```
print(math.cos(b))
-0.653643620863611 9
print(math.sin(b))
-0.7568024953079282
print(math.tan(b))
1.1578212823495775
```

Find Factorial Value

```
print(math.factorial(b))
24
```

Find Absolute Value

```
print(math.fabs(b))
4.0
```

Find Exponent Value

```
print(math.exp(b))
54.598150033144236
```

Find log to the base e

```
print(math.log((a)))
1.386294361119890 6
```

Find Value of pi

```
print(math.pi)
3.141592653589793
```

Find log to the base 2

```
print(math.log2((a)))
2.0
```

Find Square Root

```
print(math.sqrt(b))
2.0
```

Find GCD Value

```
print(math.gcd(2,b))
2
```

Pop Quiz Time

LET'S CODE

Join Here!

Thank you!