Section 1
Python Basics

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Contents

1   Basic Terminology

```
print(2+2)
```

```
4
```

The above is an expression consisting of operators (such as the +) and values (such as the 2). Expressions always evaluate down to a single value.

```
print(2)
print(5-3)
print(3*7)
print(22/7)
```

```
2
2
21
3.142857142857143
```

The order of operations follow PEMDAS, so we can use parentheses in order to show what we really want.

```
print(2+3*6)
print((2+3)*6)

20
30
```

We can get errors when we mess things up

```
print(5+)
```

We can have strings and they can also be concatenated or replicated.

```
print("Hello World")
print("Alice" + "Bob")
print("Alice"*3)
print("Hello" + "!"*10)

Hello World
AliceBob
AliceAliceAlice
Hello!!!!!!!!!!
```

Python can store values inside of variables. Usually it is smart to name variables that describe the values that they contain. Variables can also be overwritten easily.

```
spam=42
print(spam)
spam="Hello"
print(spam)
print(spam + " World")

42
Hello
Hello World
```

Variables can also be set to different expressions. The expression will be evaluated and then that value will be set to the variable.

```
spam=2+2
print(spam)
spam=10
print(spam)
spam=spam+1
print(spam)
```

```
4
10
11
```

2 Writing our First program

```
# When using Python outside of org mode, we use a different way to get inputs
# name=input()

print("Hello World")

print("What is your name?")

print("It is good to meet you, {}".format(name))
# Alternatively, we could concatenate
# print("It is good to meet you, " + name)
print("The length of your name is: {}".format(str(len(name))))

print("You will be {} in a year".format(str(int(age)+1)))

Hello World
What is your name?
It is good to meet you, Asir
The length of your name is: 4
You will be 23 in a year
```