Future Connect Media

Python Part A

Part of Future Connect Media's IT Course

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Topics to be covered:

What is Python?

Python setup

Python indentation and comments

Data types and syntax

What is Python?

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- Python is a well-liked programming language. In 1991, Guido van Rossum discovered python.

- Python is used for:

  - Software Development
  - Web Development (Server-side)
  - System Scripting
  - Mathematics

Python Setup

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- Download and Install VScode:
- Download link: https://code.visualstudio.com/

Creating a new file in Python

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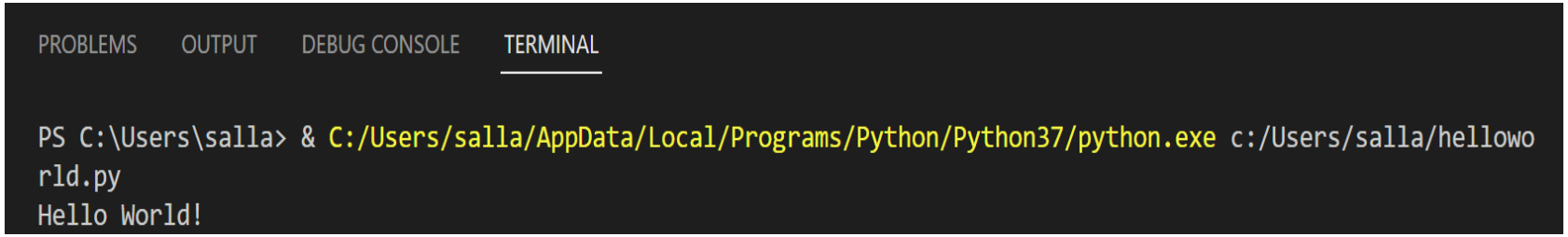
Create a new file and name it as helloworld.py

```
1   print ('Hello','World!')
```

Try the very first python program and run it.



Python Indentation

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Python Indentation: The spaces at the start of a code line are known as indentation. Indentation is usually for code readability but in python it is really important.

```
1   if 8>4:
2       print('8 is greater than 4')
```

```
8 is greater than 4
```

```
1   if 8>4:
2   print('8 is greater than 4')
```

```
  File "c:/Users/salla/helloworld.py", line 2
    print('8 is greater than 4')
        ^
IndentationError: expected an indented block
```

Comments in Python

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Python Comments: Comments are used to explain the code and makes it easy to read and understand.

- Single line comment:

```
1    #First program
2    print('hello','world!')
```

- Multi line comment:

```
1    """
2    First porgram.
3    Multi line comment.
4    """
5    print('hello','world!')
```

Python Variables

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- Python Variable: Data values are stored in variables.

```
1   x='hello'
2   y='wrold!'
3   print(x)
4   print(y)
```

```
hello
wrold!
```

```
1   x='python'
2   y='introduction'
3   print(x,y)
```

```
python introduction
```

Data types

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Name	Type	Description
Integers	int	Whole numbers, such as: **3 300 200**
Floating point	float	Numbers with a decimal point: **2.3 4.6 100.0**
Strings	str	Ordered sequence of characters: **"hello" 'Sammy' "2000" "楽しい"**
Lists	list	Ordered sequence of objects: **[10,"hello",200.3]**
Dictionaries	dict	Unordered Key:Value pairs: **{"mykey" : "value" , "name" : "Frankie"}**
Tuples	tup	Ordered immutable sequence of objects: **(10,"hello",200.3)**
Sets	set	Unordered collection of unique objects: **{"a","b"}**
Booleans	bool	Logical value indicating **True** or **False**

String Slicing

```
1    x='python'
2    y='introduction'
3    print(x[2:5],y[:4])
```

```
tho intr
```

Modify String

- Upper case:

```
x='Hello World!'
print(x.upper())
```

```
HELLO WORLD!
```

- Lower case:

```
x='Hello World!'
print(x.lower())
```

```
hello world!
```

- Replace string:

```
x='Hello World!'
print(x.replace('Hello','Hi'))
```

```
Hi World!
```

- Concatenate string:

```
x='Hello'
y='World'
print(x+y)
```

```
HelloWorld
```

```
x='Hello'
y='World'
z= x + " " + y
print(z)
```

```
Hello World
```

- Format string:

```
x=23
y="My age is {}"
print(y.format(x))
```

```
My age is 23
```