IHF: CODE

PYTHON — SESSION 2

REVIEW

TEXT EDITOR

HTTP://REPL.IT

HELLO WORLD

```
print("Hello, World!")
print("Hello, Saf!")
print("Hello, Jake!")
```

VARIABLES

```
name = "Charlie"
age = 27
left_to_pay = 29.99
has_paid = False
```

VARIABLES

- Any mix of letters, numbers and some special characters
  - Must start with a letter
  - Keep lowercase
- Use underscore where there are spaces

DATA TYPES

Strings - Characters surrounded by quotes - "animal"

Integer - A whole number - 6

Float - A decimal number - 7.8

Boolean - True or False

None - Absence of a value

ESCAPING

```
\n = New line
\t = Tab
\" = Double Quote

favourite_food = "Pizza from \"Dough N' Sauce\""
shopping_list = "Apples\nBread\nMilk\nEggs"
```

NUMERICAL OPERATORS

OPERATOR	ACTION	EXAMPLE
+	Addition	1 + 2
-	Subtraction	3 - 1
*	Multiplication	3 * 7
/	Division	9 / 3
**	Exponent	4 ** 2
%	Modulus (remainder)	10 % 3

CONCATENATION

```
first_name = "Bob"
last_name = "Jones"
full_name = first_name + " " + last_name

print("Hello " + first_name)
print("Good morning, " + full_name)
```

ORDER OF OPERATIONS

Highest	()	Brackets
	**	Exponent
	*	Multiplication
	/	Division
	+	Addition
Lowest	-	Subtraction

ANY QUESTIONS?

COMMENTS

COMMENTS

```
# The total including VAT
total = sub_total + vat

has_paid = False # If the user has paid or not
```

CASTING

CASTING – INTEGERS

```
x = int(1)    # x will be 1
y = int(2.6) # y will be 2
z = int("3") # z will be 3
```

CASTING – FLOATS

```
w = float(4)      # w will be 4.0
x = float(5.6)    # x will be 5.6
y = float("6")    # y will be 6.0
z = float("7.3") # z will be 7.3
```

CASTING – STRINGS

```
x = str("abc8") # x will be 'abc8'
y = str(9)      # y will be '9'
z = str(10.0)   # z will be '10.0'
```

LENGTH

LENGTH

```
name = "Alice"
name_length = len(name) # 5

sentence_length = len("Hello, World!") #13
```

INDEX

INDEX

H	E	L	L	O
0	1	2	3	4

INDEX

C	H	A	R	L	I	E
0	1	2	3	4	5	6

```
name = "CHARLIE"
print(name[0]) # Prints 'C'
print(name[1]) # Prints 'H'
```

INPUT

INPUT

```
name = input("What's your name? ")
print("Hello " + name)

age = int(input("How old are you? "))
age_in_10_years = age + 10
print("In 10 years you will be " + str(age_in_10_years))
```

UPPER/LOWER

UPPER/LOWER

```
name = "Alice"
print(name.upper()) # ALICE

print("HeLlO".lower()) # hello
```

CODING TIME

SECTION A

- 1. Create two variables, a variable that hold the width of a rectangle and a variable that holds height of a rectangle, work out and store the area in a third variable. Print out the string: `Rectangle of width <x> and height <y> has an area of <area>`
  - 2. Write code that prints the length of the string, 'python'
  - 3. Print out the first and third letter of the word 'python'

- 4. Ask the user to enter their name, and print out `Hello, <name>`
- 5. Ask the user to enter their age, tell them how old they will be in 15 years time
- 6. Combine the two input statements above and print out the message `Hello, <name>, you are currently <age> years old. In 15 years time you will be <age_in_15_years_time>`
- 7. Ask the user to enter their hometown, print it out in uppercase letters

- 8. Ask the user to enter their favourite colour and find out the length of the colour they input.
- 9. Ask the user to enter the weather and the month. Print out the string, `It is <month> and it is <weather> today.`

- 10. Ask the user to enter 5 different temperatures and the month. Work out the average temperature and print out the string, `It is <month> and the average temperature is <average temperature> degrees celsius`
- 11. Print out the above sentence but make the month upper case
- 12. Create a variable that holds your favourite animals and print it out. Make sure the animals are all on different lines and tabbed
- 13. Ask the user to enter their name as well as a number. Print out the uppercase character at that position in the string

ANY QUESTIONS

GO TO SLI.DO #IHFCODE