Input & Output

Output a message to the user

    print("Hello There")

Ask the user for a text input (string)

    name = input("What is your name?")

Ask the user for a number input (Integer)

    age = int(input("How old are you?"))

Add a new line

    name = input("What is your name?\n")

Concatenate strings

    print("Hello "+ name)

Concatenate different data types

    print("You are",age ,"years old")

Output the first letter

    print(name[0])

Uppercase/Lowercase format

    print(name.upper()) | print(name.lower())

Uppercase then lowercase format

    print(name[0].upper()+name[1:].lower())

IF Statements

```
IF
x = 3
if x == 3:
print("x = 3")
_____

IF / ELSE
x = 7
if x > 8:
print("Yes")
else:
print("No")
_____

ELIF
x = 4
if x > 8:
print("A")
```

IF Statements (cont)

```
elif x > 5:
print("B")
elif x > 2:
print("C")
else:
print("F")
```

Remember to indent your code [Press the 'Tab' button n the keyboard]

Editing Lists

Replace third item

    mylist[2] = 43

Insert in position

    mylist.insert(1, "OCR")

Add to the end of a list

    mylist.append("GCSE")

Remove all Sciences

    mylist.remove("Science)

Delete all items

    mylist = []

Delete third item

    del mylist[2]

Reverse list order

    mylist.reverse()

Sort list order

    mylist.sort()

Join items using a space

    print(" ".join(mylist))

Dictionaries

Creating a dictionary

    mydict = {"a":1, "b":2, "c":3}

Returns the value of b

    mydict["b"]

Check in dictionary

    "c" in mydict

Dictionaries (cont)

Display the keys

    mydict.keys()

Display keys and items

    mydict,items()

Inequalities

Equal to

    x == 3

Not equal to

    x != 4

Less than / equal to

    x <= 2

More than / equal to

    x >= 1

Between two numbers

    <= 3 x <= 12

AND

    x == 1 and z == 4

OR

    x == "A" or x == "a"

For Loop

```
Repeat 5 times
for x in range (5):
print("Owen")
_____

Repeat length of string
for x in "Nathan":
print(x)
_____

Count from 1 to 10
for x in range (1,11):
print(x)
_____

Count from 1 to 10 in 2's
for x in range (1,11,2):
print(x)
```

Repeats code a predefined number of times

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While Loops

Repeat until false
while True:
print("Hello There!")
_____

Using 'break' to end the loop
while True:
x = input("Say Yes")
if x == "Yes":
break
_____

Until x is more than 100
x = 0
while x < 100:
x = int(input("x ?"))

A while loop will repeat infinitely until the program or user input tells it to stop
Repeats code until a condition is met [within the program]

Creating And Using Files

Create document
myfile = open("Filename.txt","w")

Add data to the text file
myfile.write("Hello World")

Reads entire file into one string
myfile.read()

Reads first 4 characters into one string
myfile.read(4)

Reads one line of a file
myfile.readline()

Reads entire file into a list of strings, one per line
myfile.readlines()

Steps through lines in a file
for eachline in myfile:

Close the file
myfile.close()

("w" write, "r" read, "a" append)
.csv will create a spreadsheet

Demonstrating knowledge

Annotate / Comment on a line of code
#short comments

Annotate / comment on a block of code
'''for longer comments'''

Always annotate you code

Variables

Creating a variable
name = "Josh"

Length of string
len(name)

Print a variable
print(name)

Coverting [String ↔ Integer]
str(age) 'or' int(age)

All variables are strings [str] by default

Numbers

Addition
2+2

Subtraction
4-1

Multiplication
3*5

Division
15/10

To the power of...
1.5**2

Multiplying A String
"Ethan" *14

Numbers follow the BIDMAS / BODMAS rule

Creating And Accessing Lists

Creating a list
mylist = ["Computer", "Science", 17]

Output full list
print(mylist)

Access first item
mylist[0]

Access first to second
mylist[1:2}

Access third item to the end
mylist[2:]

Access up to the third item
mylist[:2]

Check for in list
"Computer" in mylist

Concatenate
mylist + ["a"]

Remove third item and use
mylist.pop(2)

Remove last item and use
mylist.pop()

Find position in the list
mylist.index(Science)

Count appearances
mylist.count(17)

Add values
sum(mylist)

Length of List
len(mylist)

Compare lists
cmp(mylist, list)

Biggest number in list
max(mylist)

Smallest number in list
min(mylist)

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