Self-Assessment Year 7 Python

Pupil Name	
Form	

Self-Assessment Year 7 Python

Date:		Task Number	1
Learning Objective/s:	• Learn about the Python Interface • Learn to write a simple program to display a phrase.		

Starter

What do you think programming is?

Task 1 activity 1: "Hello World"

At the command prompt, type the words below, exactly as they appear (remember to use lower case):

```
>>>print("Hello World")
```

The phrase Hello World should appear immediately below the print as shown below:

```
>>>print("Hello World")
Hello World
>>>
```

Now type the message below, exactly as it appears:

```
>>>print(Hello World)
```

What happened when you pressed enter? (write out the message)	

Self-Assessment Year 7 Python

Code Task 1 Activity 2

Code	Try this and write down what happened?	What was the problem?
>>>print"Hello World"		
>>>print("Hello World");		
>>> Print("Hello World")		
>>>print('Hel World")		
>>>prin(Hello World)		

Plenary:	Have you met todays learning objectives? • Learn about the Python Interface ☐ • Learn to write a simple program to display a phrase. ☐
What have you learnt this Task?	

Self-Assessment Year 7 Python

Date:		Task Number	2
Learning Objective/s:	• Learn how to write several lines of code spread over different lines • Learn about the "print" and "input" command and how to use placeholders.		

Task 2 Activity 1 (Print Command)

Type out the following code and answer the questions below

```
print("Hello!")
print("How are you")
print("Have you had a good day so far?")
```

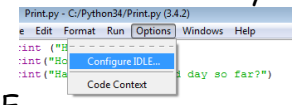
Question 1: Explain the above code

……

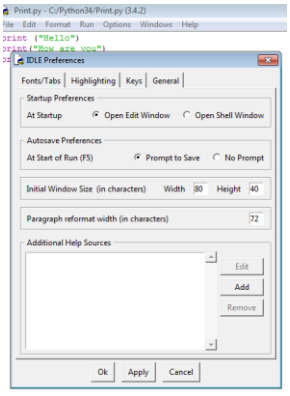
……

IDLE & Shell

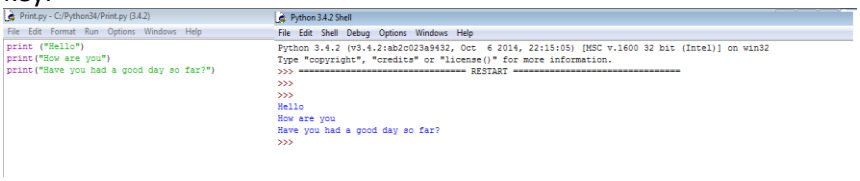
What if you want to write a full programme? The command line isn't suitable as it processes one line at a time and you can't save the code. In Python, go to Options,



Configure IDLE



Go to Edit and choose Open Edit Window. Close Python and re-open. Now when you write code you can save it and then run it by pressing the F5 key.



Self-Assessment Year 7 Python

Task 2 Activity 2 (Comments)

Comments are bits of text in the program code that are not used by the computer, but help to explain what is going on. You can write a comment using a # symbol.

Try this program:

#This is a comment

print("This is not a comment.")

Copy out the following codes and add #comments also.

print("Hello!")

#Here the code display's the word Hello

print("Have you had a good day so far?")

#Here the code displays a question

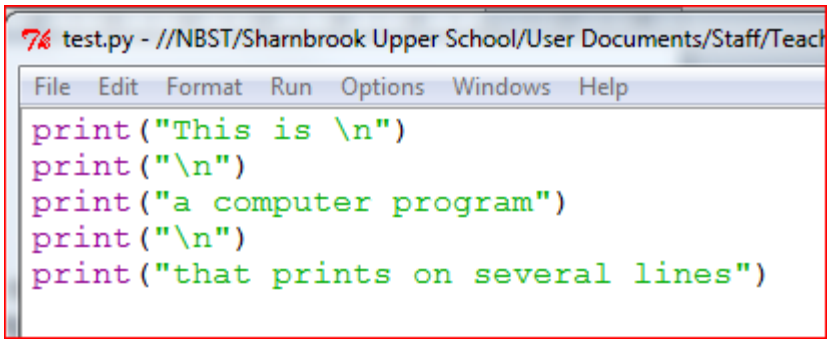
Task: Explain why adding comments helps programmers.

……

……

Task 2 activity 3

Try this **\n** command at any point in a line of text will force a new line:



Task: Copy out the code above

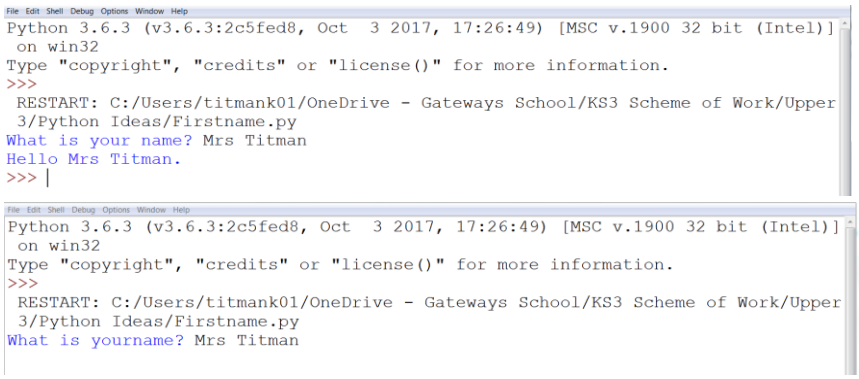
Now try typing in this code:

```
Firstname = input("What is your name? ")
print("Hello {0}.".format(Firstname))
```

{0} is known as a **placeholder**. This tells Python that you want to put something in this place.

.format(Variable Name) tells Python what you want to put into the placeholder

When you run the program, you will have to type in your name and then press the Return key.



Type in this code and run the program.

```
firstname = input("Please enter your first name: ")
surname = input ("Please enter your surname: ")
print("Hello {0} {1}.".format(firstname,surname))
```

You can use more than one placeholder. Placeholders are numbered {0}, {1}, {2} … etc in the order that the variable names appear in the format brackets.

Plenary:	Have you met today's learning objectives?
What I have learnt this Task?	

Self-Assessment Year 7 Python

Date:		Task Number	3
Learning Objective/s:	• Learn about storing variables using Python		

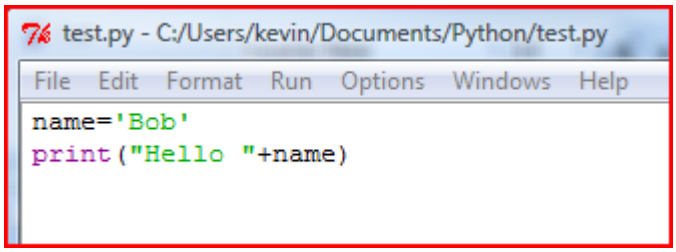
Variables

We need a mechanism for tracking values and changes of values in a program. We do this in high level programming by using what we term as "**variables**".

A typical variable usage would be

a = 6

This assigns the value of 6 to the variable "a"

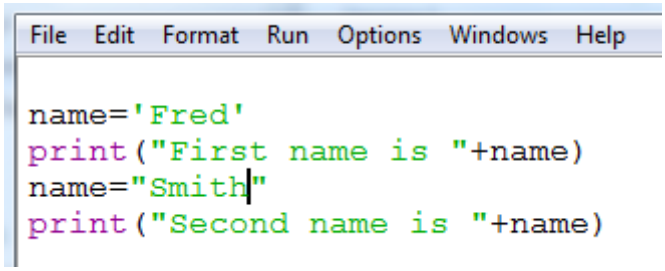


Task 3 Activity 2

We can change the value of a variable within the program. Try running this code and explain what happened:

……

……



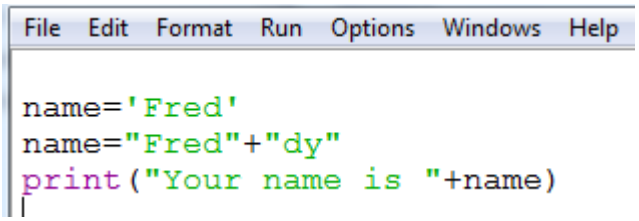
Explain what happened…

……

……

Task 3 Activity 3

Try this.



Explain what happened…

……

……

Date:		Task Number	**4**
Learning Objective/s:	• Learn about calculations using Python • Learn about subtraction, addition, division and multiplication symbols. • Learn how to store numbers as variables.		
Plenary:	Have you met todays learning objectives? Tick (✓) the ones you have and cross (×) the ones you haven't above.		
What I have learnt this Task? Ticks (✓)			

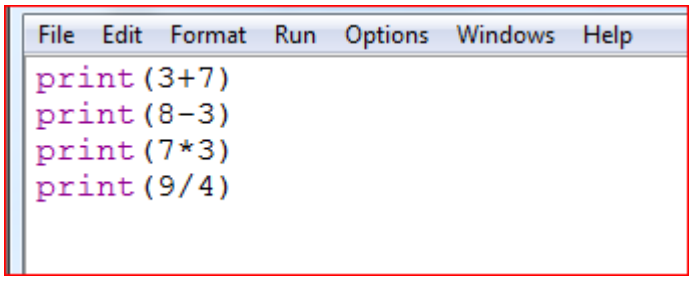
Calculations: We can carry out calculations in Python. The arithmetic operators we use to do this are:

+	addition
-	subtraction
*	multiplication
/	division

Self-Assessment Year 7 Python

Task 4 activity 1a

Try the following code.



Explain what happened…

……

……

Task 4 activity 1b

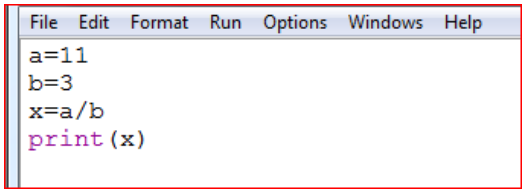
Using Python, copy out the following codes and answer the questions below.

REMEMBER THAT YOU NEED TO PUT print( ) AROUND THE EQUATION

EQUATION	ANSWER	What does it do?
2+5		
67/34		
20**5		
30*4		
3==6		
3!=5		
39==39		

Task 4 activity 2

Copy and run this program:



Copy out the code above.

What does the code do?

……

……

Date:		Task Number	5
Learning Objective/s:	• Learn about the IF Statement • Learn about operators • Learn about indentation.		

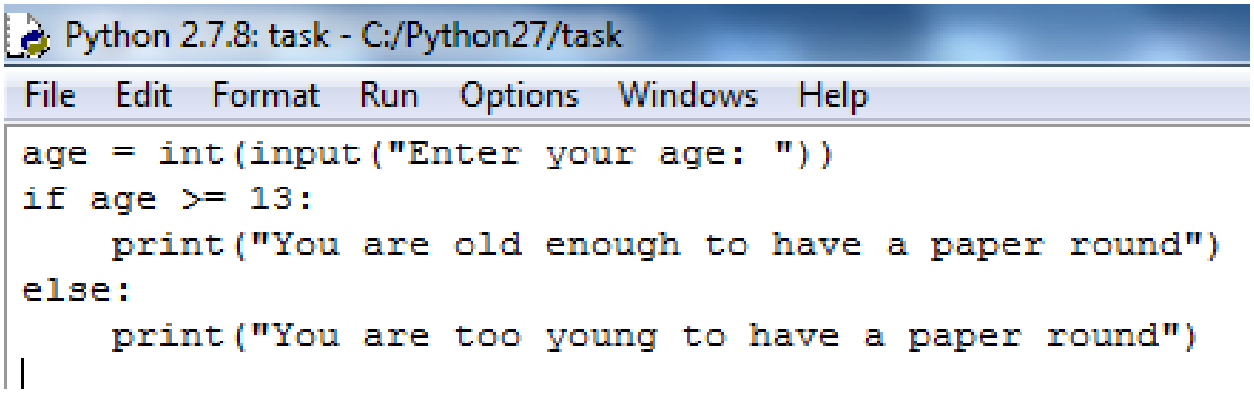
Load up the file "IF statement task.xls"
Your teacher will demonstrate this task and you need to complete this activity.

A Boolean condition is one that can have only two values **true** or **false** (1 or 0, yes or no).

The boolean comparison operators used in python are as follows:

Operator	Meaning
= =	Equal to
! = (<> is out of date now)	Not equal to
<	Less than
>	Greater than
<=	Less than or equal to
>=	Greater than or equal to

Task 6 Activity 1 Copy out the following code.



Explain what happened.

……

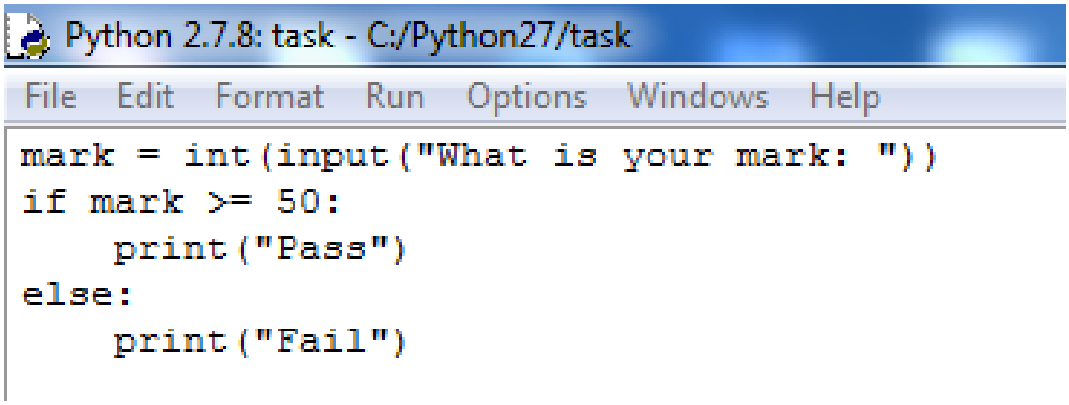
……

Self-Assessment Year 7 Python

Now adjust the comments for the following scenarios

1) To have a credit card at the age of 18
2) To collect a pension at 67
3) To go see X Men Film with "12 Certificate"

Now try the following code:



Copy out the code above. Explain what happened.

……

……

Plenary:	Have you met todays learning objectives? Tick (✓) the ones you have and cross (×) the ones you haven't above.
What I have learnt this Task?	

Self-Assessment Year 7 Python

Date:		Task Number	**6**
Learning Objective/s:	• Learn about the IF and IF ELSE statement • Learn about operators • Learn about arrays.		

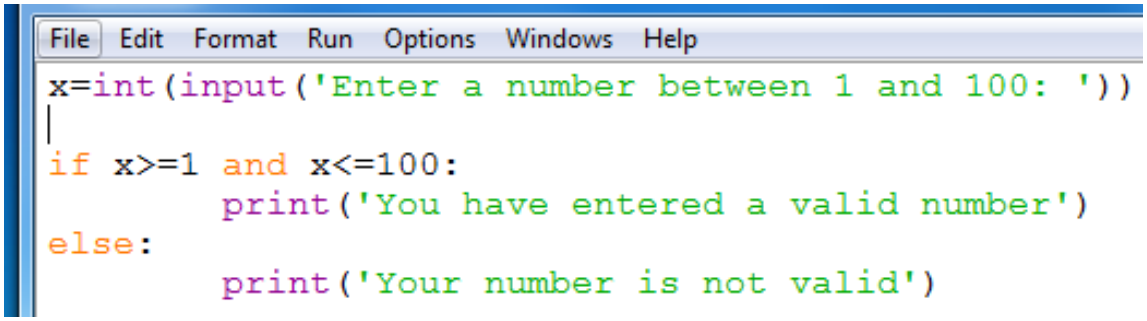
We can tell the computer to do something different when the condition isn't true using the **else** keyword.

You can extend the IF statement by using an abbreviation of the ELSE IF Function in Python this is written **elif**.

For more complex conditions we can use **and** to create a range between two numbers.

Task 6 Activity 1

Copy out the following code.



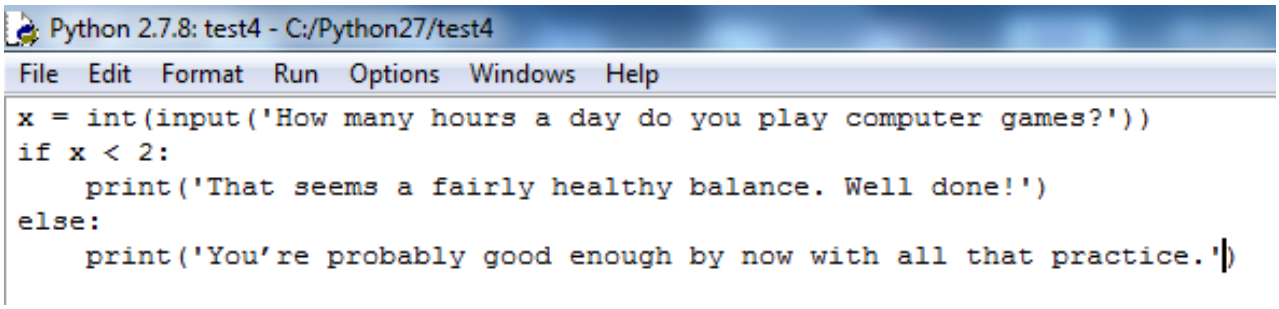
Copy out the code above. Explain what happened.

……

……

……

Activity 2



Copy out the code above. Explain what happened.

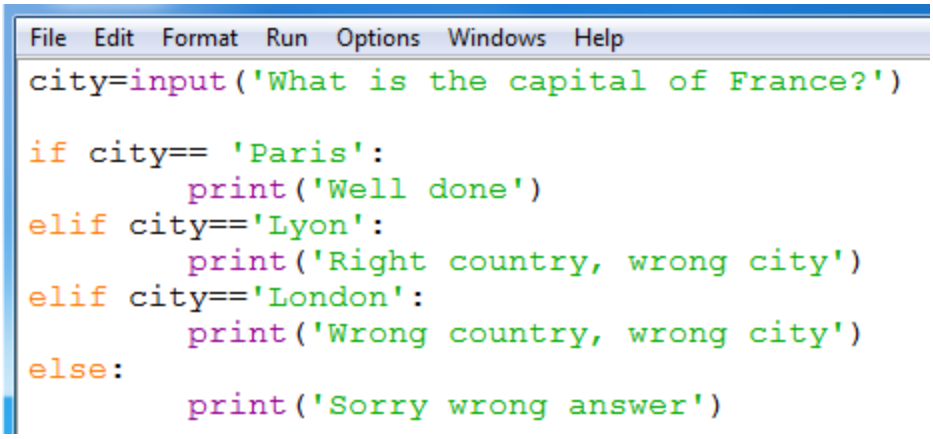
……

……

……

Copy out the code below.

Task Activity 3



Below is a program that asks for three numbers and outputs SNAP if they all match. Use your knowledge of the **and**, **or** and **not** operators to make the program more efficient.

Task 6 Activity 4

```
File  Edit  Format  Run  Options  Windows  Help
one=int(input('Please enter number 1: '))
two=int(input('Please enter number 2: '))
three=int(input('Please enter number 3: '))
if(one==two):
        if(two==three):
                print('SNAP!')
        else:
                print('They do not all match')
else:
        print('They do not all match')
```

Task 6 Activity 5: Arrays

An array is a collection of words, numbers or objects that will follow a specific pattern. In programming you may wish to store a set of names and associate these names with a number.

E.g. storing someone's age, address or phone number in a database.

```
Python 2.7.8: test9 - C:/Python27/test9
File  Edit  Format  Run  Options  Windows  Help
names = ["Paul","Phillip","Paula","Phillipa"]
ages = [12,15,11,14]
print(names[0],"is",ages[0])
print(names[1],"is",ages[1])
print(names[2],"is",ages[2])
print(names[3],"is",ages[3])
```

Copy out the code. Explain what happened.

……

……

……

Plenary:	Have you met todays learning objectives? Tick (✓) the ones you have and cross (×) the ones you haven't above.
What I have learnt this Task?	

Self-Assessment Year 7 Python

Date:		Task Number	**7**
Learning Objective/s:	• Recap n/ command • Learn about creating Menu's • Learn about storing variables and recap the print command. • Learn about the len() command		

Task 7 activity 1 Copy the code

```
menu = "What would you like:\n\
1. A complement?\n\
2. An insult?\n\
3. A proverb?\n\
4. An idiom?\n\
9. Quit\n"

x = int(input(menu))
if x == 1:
    print("You look lovely today!")
elif x == 2:
    print("You smell funny.")
elif x == 3:
    print("Two wrongs don't make a right. But three lefts do...")
elif x == 4:
    print("The pen is mightier than the sword.")
elif x == 9:
    print("Goodbye!!!")
```

Copy out the code above. Explain what happened.

……

……

……

Plenary:	Have you met todays learning objectives? Tick (✓) the ones you have and cross (×) the ones you haven't above.
What I have learnt this Task?	