

Student Name:



**ST DOMINIC'S
Sixth Form College**

This Booklet contains some simple questions and challenges for you.

You should hand in your answers / work when you come to St Dom's.

You can use this sheet as the basis for your work (i.e. use the Word document!) if you wish - no pressure.

We look forward to seeing you in September.

Good luck with your exams!

Task 1: To help me, please answer the following questions;

1. What computing language did you use at school?
2. Circle the appropriate phrase to show how confident you are in the following things:

Programming in general	Not at all	OK	Amazing
Using Python	Not at all	OK	Amazing
Using Variables	Not at all	OK	Amazing
Using Loops (for x in range, while etc.)	Not at all	OK	Amazing
Using Functions / Procedures	Not at all	OK	Amazing
Using Simple Lists / Arrays	Not at all	OK	Amazing
Using 2-D Lists / Arrays	Not at all	OK	Amazing
Manipulating Strings	Not at all	OK	Amazing
OOP	Not at all	OK	Amazing
Using Files	Not at all	OK	Amazing
HTML	Not at all	OK	Amazing
CSS	Not at all	OK	Amazing
JavaScript	Not at all	OK	Amazing
Networks	Not at all	OK	Amazing

Are your Word processing skills good enough to email me a copy of this sheet with the survey on the previous page completed?

Task 2: Unfortunately, at A Level, we have to do a few essay questions - I would like to see how comfortable you are with this:

'Howard says that Artificial Intelligence is a bad thing.
Is he right?'

Discuss this statement in a one-page essay - no longer!

Please do not stress with this - I'm expecting something succinct.

**No ChatGPT rubbish please
- I can spot it a mile off**

Task 3: Programming

Using your best programming skills - try to do these using **good programming practice**

i.e. use **modules/functions**, **send in parameters**, and **make your code reusable** where you can.

I would really like these solution to be completed in Python.

1. Write a program which takes in 2 numbers from a user and outputs their sum neatly

e.g.: **Please enter your 1st Number: 3**
Please enter your 2nd Number: 4
Your numbers total: 7)

2. Write a program which prints out the 3 times table
(I don't need to explain this, do I?)

3. Write a program which prints out the times table of a number entered by the user

e.g.: **Please enter a number to see its times table: 4**
The times table for your number is:
4, 8, 12, 16, 20, 24, 28, 32, 36, 40

4. Write a program which allows a user to enter her 1st and 2nd names and then prints out her full name:

e.g.: **Please Enter your First Name: Howard**
Please Enter your Second Name: Bennett
Your full Name is: Howard Bennett

pto ->

Task 3: Programming (continued)

5. Write a program which allows the user to enter her weight in Kg and converts it to Stones and Pounds. Your program must round the weight to the nearest pound:

e.g.: **Please enter your weight in Kg: 76**
Your weight is: 11 Stones and 13 pounds

I find many people of your age don't understand Stones and Pounds.

If you don't, I would expect you to research how they work.

There are difficult edge cases e.g. when one moves from 8 stones, 13 pounds to 9 stones - you should test your program to make sure it deals with that challenge.

It would be cool if your program validated inputs to make sure they were numbers and not ridiculous.

I consider these to be **REALLY SIMPLE tasks** and

I am interested in the way you complete them

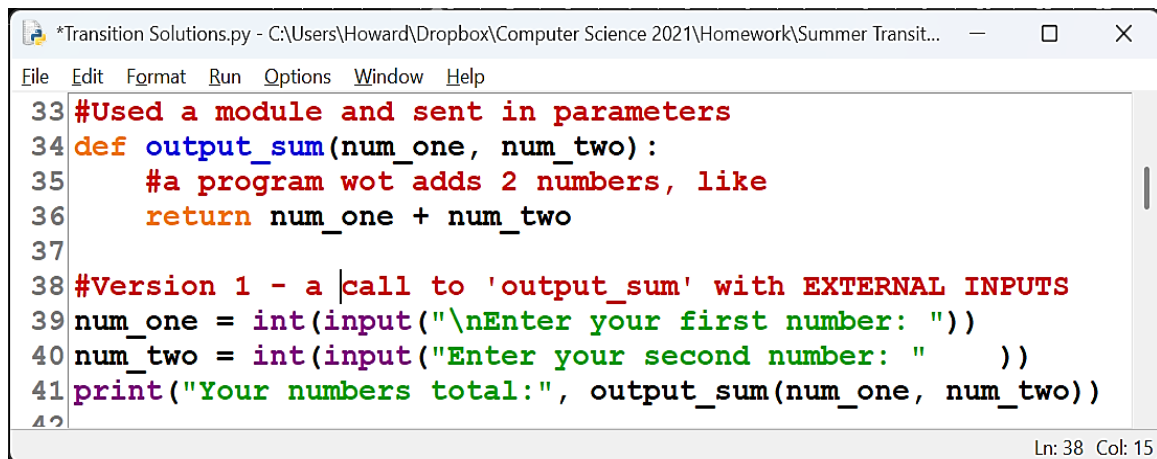
- are your solutions **structured, reusable, easy to follow**
and **have you tested them sufficiently**

to demonstrate that they work with all reasonable inputs?
(and, in the case of the last one), edge cases?

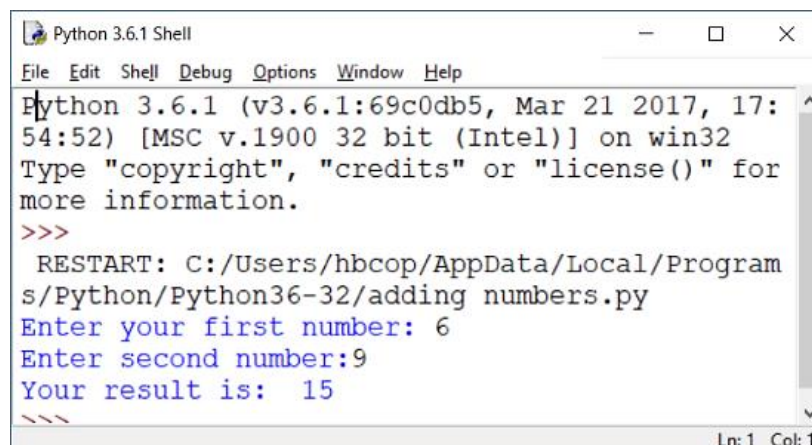
Task 4: Presenting Programming Work - example

I need a listing of your code and a sample run e.g.:

Qu.1: A program to add 2 numbers



```
*Transition Solutions.py - C:\Users\Howard\Dropbox\Computer Science 2021\Homework\Summer Transi...
File Edit Format Run Options Window Help
33 #Used a module and sent in parameters
34 def output_sum(num_one, num_two):
35     #a program wot adds 2 numbers, like
36     return num_one + num_two
37
38 #Version 1 - a call to 'output_sum' with EXTERNAL INPUTS
39 num_one = int(input("\nEnter your first number: "))
40 num_two = int(input("Enter your second number: "))
41 print("Your numbers total:", output_sum(num_one, num_two))
42
Ln: 38 Col: 15
```



```
Python 3.6.1 Shell
File Edit Shell Debug Options Window Help
Python 3.6.1 (v3.6.1:69c0db5, Mar 21 2017, 17:
54:52) [MSC v.1900 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for
more information.
>>>
RESTART: C:/Users/hbcop/AppData/Local/Program
s/Python/Python36-32/adding numbers.py
Enter your first number: 6
Enter second number:9
Your result is: 15
>>>
Ln: 1 Col: 1
```

Note: the above code is a reusable function that uses parameters

If the above questions are too easy, do them anyway and show me something you have done that you are proud of!

My email address is: hmb@stdoms.ac.uk - any questions - just ask me

Please email me on a non-private email address: e.g.: gmail, hotmail - not your personal one

Recommended Online Course:

The best online course I have seen (by far!) that prepares you for A Level Python programming is:

'Program Arcade Games With Python And PyGame':

<http://programarcadegames.com/index.php?lang=en>

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