

General Instructions

Make sure that you read and then follow the instructions for each task carefully.

Please make sure that you save all of your work to a safe place and that you make regular back-ups.

You should begin all tasks with the following steps unless otherwise stated:

- Create a new Python file with the name specified in the task
- Save the file with your completed code (and/or any other files specified) in a folder named for the tutorial (*w01_t1*, *w01_t2*, *w02_t1*, *w02_t2*, etc.), which should itself be in a root folder called *sdam*.

If you are in any doubt about what you must do please ask your tutor.

Task 1 – Hello World

Project Name: *hello_world*

Beginner

Step 1: Create a new folder

- Navigate to your H drive (or any alternative personal storage space such as a pen drive or OneDrive) and create a folder called *sdam*
- Create a subfolder within *sdam* called *w01_t1*

Folder names can be as long as you like but it is best to choose short but meaningful names. By convention you should use lower-case letters with underscores where clarity requires.

NB: The following examples assume that you have created a folder called *sdam* containing a subfolder called *w01_t1* (for Week 1, Tutorial 1) on your H drive.

Step 2: Create a Python project using PyCharm

- Using the information given in the lecture create a new project with the *w01_t1* folder as its root

Step 3: Write source code

- Using the information given in the lecture add a new file called *hello_world.py*
- Type in the code below

```
# output Hello World

print("Hello World")
print("Welcome to Python")
```

- Get into the habit of putting a comment to explain what the application does at the start of the program.

Step 4: Run program

- Using the information given in the lecture run the *hello_world* application after correcting any errors that may occur.

Step 5: Take a screen shot of the output

- Ensure that the screen in which the application is running is active and that the output of the program is shown in its entirety

- Press [ALT + Print Screen]
- Open Paint (or similar)
- Paste the screenshot [CTRL + V]
- Save the image in your *w01_t1* folder as *hello_world.jpg*

Portfolio

The task contribution to your portfolio is:

- The Python source code file *hello_world.py*
- *hello_world.jpg* from Step 5

Make sure that both of these files are saved in your *w01_t1* folder

Task 2 – Debugging code

Project Name: debug

Beginner

Step 1: Write the source code

- Add a new Python file called *debug.py*
- Type in the code below

```
# exercise to debug code

name = "John Smith"; # remove one character
occupation = 'Student' # replace one character
location = 'Stoke-on-Trent' # replace one character
activity level = "moderate" # replace one character (too many spaces)

print(My name is", name) #add one character
print("I am a student in " + location) # no errors in this line

age == 21 # remove a character

print("I am " + str(age) + " years of age with a", activity level, "activity level"
# add one character and replace one character
```

Step 2: Debug the program

- Using the information given in the lecture (and in the comments of the code) debug the program to fix all of the errors
- Run the application after correcting any errors that you find.

NB: PyCharm will highlight any errors that it identifies. If you hover your cursor over the error it will also give you information on how to correct the errors. Be aware that some errors may be identified because of problems earlier in the code – correcting earlier problems sometimes removes errors that PyCharm has found. When all errors have been corrected the program should run with the following output:

```
My name is John Smith
I am a student in Stoke-on-Trent
I am 21 years of age with a moderate activity level
```

Step 3: Take a screen shot of the output

- Ensure that the screen in which the application is running is active and that you have corrected all of the errors
- Press [ALT + Print Screen]
- Open Paint
- Paste the screenshot [CTRL + V]
- Save the image in your *w01_t1* folder as *debug.jpg*

Portfolio

The task contribution to your portfolio is:

- The Python source code file *debug.py*
- *debug.jpg* from Step 3

Save both of these files in your *w01_t1* folder

All portfolio requirements for this tutorial

Beginner	<i>hello_world.py</i>
	<i>hello_world.jpg</i>
	<i>debug.py</i>
	<i>debug.jpg</i>