

Make sure to do the assignments for BOTH Section 1 and Section 2 below

Section 1: Python Programs

Week 1

1. Copy all the programs from the Weekly Sessions and get them to work
2. Modify any one of the above programs to change its output
3. Program 1: Write a program to display the message “Hello everyone” **three times**, on separate lines on the screen using **3 print()** statements

```
Hello everyone  
Hello everyone  
Hello everyone
```

4. Modify Program 1 to produce the same output BUT using **only 1 print()**

Hint: When you put '\n' in a string, the print() function starts a newline e.g.

```
print('Bye \n Bye\n')
```

outputs

```
Bye  
Bye
```

5. Write a program that prints out your name, followed by a blank line, followed by your address, followed by a blank line, followed by your telephone number (you may make up an address and a telephone number). Save this program as p1_5.py.

Week 2

1. Create and run the beep program below

```
# beep.py: Just for fun – beep 3 times !!  
  
print("\a \a \a")
```

- (a) Modify Program 1 from Week 1, number 3 above, to beep after it displays each line
- (b) Modify the program to beep twice before it displays each message

2. Write a program that uses a single print command with a number of arguments to print to the screen the strings "Hello," and "world." The output should include a space between the comma and the word "world".
Save your program as p2.py.

3. Write a program that uses a single print command with a single argument to print to the screen the concatenation of the strings "Hello," and "world." Again, the output should include a space between the comma and the word "world".
Save your program as p3.py.

4. Write a program that assigns to a variable the concatenation of the strings "Hello," and "world." and includes a space between the comma and the word "world". The program should then print out the value of this variable.

Save your program as p4.py.

For each of the following programs, use assignment statements to give values to variables.

5. Write a program that takes an amount of currency (a float) and an exchange rate to another currency (a float) and prints out the value of the original amount in the other currency. (Use today's exchange rate for two currencies of your choice.)

Save this program as p5.py.

6. Write a program that takes a single length (a float) and calculates the following:
 - The area of a square with side of that length. ($\text{length} * \text{length}$)
 - The volume of a cube with side of that length. ($\text{length} ** 3$)
 - The area of a circle with diameter of that length ($3.14 * (\text{length}/2)**2$)

You can use 3.1415927 for the value pi.

Save this program as p6.py.

7. Write a program that takes an amount (a float), and calculates the tax due according to a tax rate of 20%.
Save this program as p7.py.

Section 2: Weekly Exercises

Week 1

1. Make the following deliberate errors in a Python program and explain what happens
 - a. Omit " at end of a string
 - b. Omit "(" from a print statement
 - c. Omit ")" from a print statement
 - d. Misspell print as "prince"

1. Explain the concept of **variable**
2. Explain what is meant by the *type* of variable
3. Why do we need to use meaningful variable names ?
4. Which of the following are valid Python variable names
 - a. Tax1123
 - b. Tax456
 - c. 12tax
 - d. Tax_code
 - e. Tax-code
 - f. Tax.code
 - g. print

Week 2

1. What is the difference between an algorithm and a program ?
2. What is a syntax error ?
3. Why should you use comments in a program ?
4. What type does the `input()` function return ?
5. How can we convert the type returned by `input()` to a float ?