

**HW# - Title**

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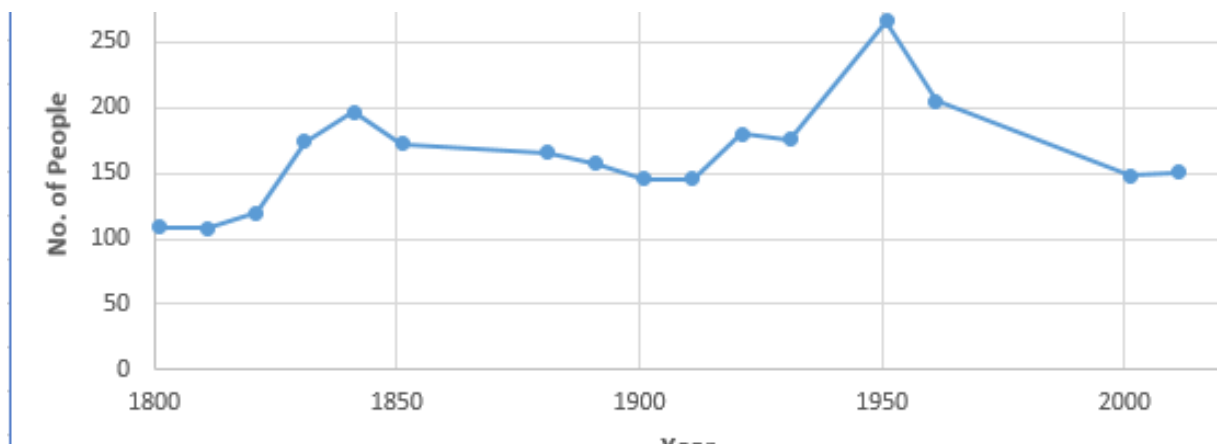
**Q1**

*You may copy the question into your report, but make sure that you make it clear where the question ends and your answer begins.*

**Answer**

*All figures must have a caption and must be referenced in the text. Example below.*

Figure 1 shows the population chart from 1800 to 2000.



**Figure 1:** Population Growth chart

*If you want to include code in your report, you can insert a screenshot (if it's legible), or you can copy/paste the code into a listings environment. There are examples below and more information is available at [https://www.overleaf.com/learn/latex/code\\_listing](https://www.overleaf.com/learn/latex/code_listing).*

Listing 1 is an example of directly copying code into the LaTeX document and having the listings package perform syntax highlighting. Listing 2 is an example of importing the code from a file rather than copying it in.

```
1 # Program to display the Fibonacci sequence up to n-th term
2
3 nterms = int(input("How many terms? "))
4
5 # first two terms
```

```
6 n1, n2 = 0, 1
7 count = 0
8
9 # check if the number of terms is valid
10 if nterms <= 0:
11     print("Please enter a positive integer")
12 # if there is only one term, return n1
13 elif nterms == 1:
14     print("Fibonacci sequence upto",nterms,":")
15     print(n1)
16 # generate fibonacci sequence
17 else:
18     print("Fibonacci sequence:")
19     while count < nterms:
20         print(n1)
21         nth = n1 + n2
22         # update values
23         n1 = n2
24         n2 = nth
25         count += 1
```

**Listing 1:** Python example copied into the LaTeX

```
1 #!/usr/local/bin/python3
2 # testargs.py
3
4 import sys
5
6 print ("{} is the name of the script." . format(sys.argv[0]))
7 print ("There are {} arguments: {}".format(len(sys.argv), str(sys.
    argv)))
8
9 for ind, arg in enumerate(sys.argv):
10     print ("[{}]: {}".format(ind, arg, sys.argv[ind]))
```

**Listing 2:** Python sample code loaded from file

Table 1 shows a simple example table. Table 2 shows an example confusion matrix (you'll see this term later) from [https://en.wikipedia.org/wiki/Confusion\\_matrix](https://en.wikipedia.org/wiki/Confusion_matrix). This employs rows that span multiple columns (multicol) and columns that span multiple rows (multi-row).

## Discussion

*You must provide some discussion of every answer. Discuss how you arrived at the answer and the tools you used. Discuss the implications of your answer.*

**Table 1:** Simple Table

Week	Date	Topic
1	Aug 8	Introduction to Web Science and Web Architecture
2	Sep 4	Introduction to Python
3	Sep 11	Introduction to Info vis with R and Python
4	Sep 18	Measuring the Web

**Table 2:** Example Confusion Matrix from Wikipedia

		Actual	
		Cat	Dog
Predicted	Cat	5 (TP)	3 (FP)
	Dog	2 (FN)	3 (TN)

**Q2****Answer****Discussion****Q3****Answer****Discussion****References**

*Every report must list the references that you consulted while completing the assignment. If you consulted a webpage, you must include the URL.*

- Reference 1, <https://www.programiz.com/python-programming/examples/fibonacci-sequence>
- Reference 2, <https://www.python.org/>
- Reference 3, <https://www.overleaf.com/>