

**Allen E. Paulson College of Engineering& Computing**

**Department of Information Technology**

**Project 3**

Report for **Project 3** that is due on Sunday, February 6, 2022

As part of ITW 2431 Data Programming II

**Name: Michael Patak**

**Date of Submission: Sunday, February 6, 2022**

# Section 1 – Project 3 Prob 1 Purpose(s) of Program Problem, Output of Sample Run, and Learning Experience

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| 1. **Purpose(s) of Problem:**   The program read to existing .txt files that have lists of numbers in them. The program will find the  numbers that are overlapping, meaning the same number exists in both lists. One .txt file has a list of  all prime numbers under 1000, and the other .txt file has a list of happy numbers up to 1000.The  program will output a list of all the overlapping numbers. |
| 1. **Source Code File Name:** ITW2431\_P3\_P1\_mpatak.py |
| 1. **Other Supporting File(s) (if any):** happynumbers.txt and primenumbers.txt |
| 1. **Hours Spent on Developing the Solution of the Problem and Writing the Program:** 1.5 hour |
| 1. **The Output of Program Sample Run:** |
| 1. **Overall Learning Experience for the Problem:**   The problem was deciding the best way to find the elements common to both lists. I chose to  list(set(a) & set(b). |

# Section 2 – Project 3 Prob 2 Purpose(s) of Program Problem, Output of Sample Run, and Learning Experience

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| 1. **Purpose(s) of Problem:**   The program will ask the user to input how many Fibonacci numbers to generate and then  generate them. The program will have a function called gen\_fib(n) that will generate the  Fibonacci numbers and return them as a list. The program will have a second function called  Sum(aList) that take the generated list from genfib(n) and returns the sum of the list. The program  will output the Fibonacci sequence and the sum of the all the numbers. |
| 1. **Source Code File Name**: ITW2431\_P3\_P2\_mpatak.py |
| 1. **Other Supporting File(s) (if any):**  n/a |
| 1. **Hours Spent on Developing the Solution of the Problem and Writing the Program:** 1 hour |
| 1. **The Output of Program Sample Run:** |
| 1. **Overall Learning Experience for the Problem:**   The problem had some challenges getting the sequencing code just right. After I got past that the rest was easy. |

# Section 5 – Assignment xx Prob x Purpose(s) of Program Problem, Output of Sample Run, and Learning Experience

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| 1. **Purpose(s) of Problem:** |
| 1. **Source Code File Name:** |
| 1. **Other Supporting File(s) (if any):** |
| 1. **Hours Spent on Developing the Solution of the Problem and Writing the Program:** |
| 1. **The Output of Program Sample Run:** |
| 1. **Overall Learning Experience for the Problem:** |