Arpan Patel

Short answer (25 points)

Submit to the appropriate D2L drop box a single text document (typed, not handwritten) called `homework1.{txt,doc,docx}` with the answers requested.

Exercise 6, p. 4 (5 points)

Answer: This algorithms have output, precision, and finiteness properties. Also, this algorithms does not stated how we are generating the sum of two prime numbers therefore I feel like this algorithms lacks at the determinism property.

Exercise 3, p. 9 (10 points): You can either write the requested pseudocode or you can write a program. If writing a program, assume that the array is indexed from 0 (as it almost always is present-day programming languages). Do NOT assume that the array is sorted. Find the values without sorting the array.

Input Parameter: s
Output Parameter: None

array_maximum_numbers(s)

{

large = s[1]
second_largest = s[2]
i = 3

while (I <s.last)

{

        If(s[i]>second_largest)
        If(s[i] > large)

        {

        second_largest = large
        large = s[i]
        }

        else

        second_largest = s[i]
        I = i+1

```
        }
return large and second_largest


        }
```

Exercise 3, p. 14 (10 points)

Answer: Five(qubit) is the largest number of qubits currently implemented in a quantum computer.

http://arstechnica.com/science/2016/05/how-ibms-new-five-qubit-universal-quantum-computer-works/

Cipher program (25 points)

Complete chapter exercise 1.4 on p. 15. You may use almost any language but if it's not one of those in the following list, clear it with me first: Python, Java, Ruby, C++, C, C#.

Creaet a single source code file for your program that has the appropriate extension (e.g., `.java`, .py). Place it into a zip file called `homework1.zip`. The name of the file should be something like `cipher.py` or `Cipher.java`. Submit that zip file to the appropriate D2L drop box.