Create the following text files:

IPaddress.txt

98.139.183.24 yahoo
74.201.2.222 washjeff
136.142.35.7 pitt
173.194.75.104 google
173.252.100.16 facebook

SchoolName.txt

PITT University of Pittsburgh
CMU Carnegie Mellon

Cities.txt

PIT Pittsburgh
NY New York

1. **File IO & Hash**

Write a script and store the ipaddress into the hashtable, print out the values according to the order of their value.

2. **Subroutines & Hashes in arrays**

Write the code in question 1 as a subroutine *readHash*, this subroutine loads the tuples into the hash, and return the hashtable created. Write a script that invoke this subroutine to read file IPaddress.txt, SchoolName.txt, Cities.txt and put all the returned results into an array.

3. **IO, Subrountines, Hashes in Hashes**

Create a hash *hash_all* first.

Write a subroutine *loadAll*. In this subroutine, invoke the *readHash* subroutine you wrote in the last step for IPaddress.txt, SchoolName.txt, Cities.txt. Store the returned hashtables into *hash_all* with key: ip, school, city.

Write another subroutine *queryValue*, this subroutine takes in two parameters. The first one is the key of the outer hash(i.e. ip/school/city). The second one is the key of the inner hash(i.e. PIT/CMU/…). This subroutine finds the value from *hash_all* given these two keys.

Write a script, it allows the user to input the two parameters for the subroutine, and print out the queried value according to these two parameters.

4. **Extra: Regular Expressions**

The logic is the same as question 3. The only difference here is that the second parameter of the *queryValue* will be a regular expression. The subroutine still fetches the hash from *hash_all* using ip/school/city, then it should iterate through the hash got, for all the keys that matches the regular expression, print their corresponding values out.