**1. The Data structure used to implement Weighted Q**

was a Linked list. This allowed me to remove and insert in the middle of the list without having to make any array copy / shifts.

**2. Pseudo code of my crawling algorithm.**

Create File

write max pages to first line of file

url = seed url

for i = 0 -> max pages {

try{

open connection with BASE\_URL + url

record visited url

pageSource = the html as a string

pageSource = trim off the beginning of html up to the first "<p>"

if pageSource contains no links

Write only URL to the file

else

while there are still links on the page {

grab the next link

if the link does not contain "#" and ":" and

is allowed & is not the current url & is not already an edge{

record edge for URL

println (url + space character + the link)

if page has not been visited {

weigh link

add it to the queue

}

}

}

} catch "can't connect" {

i = i-1

}

url = next url in the queue

sleep 100ms

}

**3. wikiTennisRanker**

Top 10 in-degree vertices:

[/wiki/The\_Championships,\_Wimbledon, /wiki/Career\_Golden\_Slam, /wiki/Grand\_Slam\_in\_tennis, /wiki/Grand\_Slam\_(tennis), /wiki/List\_of\_Wimbledon\_gentlemen%27s\_singles\_champions, /wiki/French\_Open, /wiki/Rod\_Laver, /wiki/List\_of\_Grand\_Slam\_related\_tennis\_records, /wiki/Roger\_Federer, /wiki/Rafael\_Nadal]

Top 10 out-degree vertices:

[/wiki/Australia, /wiki/Grand\_Slam\_(tennis), /wiki/United\_Kingdom, /wiki/France, /wiki/Spain, /wiki/Tennis, /wiki/South\_Africa, /wiki/The\_Championships,\_Wimbledon, /wiki/Switzerland, /wiki/Australian\_Open]

**Epsilon = 0.01**

Top 10 page rank vertices

[/wiki/France, /wiki/United\_Kingdom, /wiki/Grand\_Slam\_(tennis), /wiki/Spain, /wiki/Australia, /wiki/Switzerland, /wiki/Tennis, /wiki/Czech\_Republic, /wiki/Romania, /wiki/Serbia]

Total Convergences = 6

Set A and B :0.5524475524475524

Set A and C :0.8404669260700389

Set B and C :0.4745762711864407

**Epsilon = 0.005**

Top 10 page rank vertices

[/wiki/France, /wiki/United\_Kingdom, /wiki/Spain, /wiki/Grand\_Slam\_(tennis), /wiki/Australia, /wiki/Switzerland, /wiki/Tennis, /wiki/Czech\_Republic, /wiki/Romania, /wiki/Serbia]

Total Convergences = 8

Set A and B :0.5543859649122806

Set A and C :0.8326848249027238

Set B and C :0.47619047619047616