Ruby
Practical 7
Student Name- Vipin Hans
Student Number- 17201230

1) Get 5 regular emails and 5 advance-fee fraud emails (aka spam). Save them as text and change them so they are a single, long string. Then turn each into an array of words (split may help here). Then use a bunch of regular expressions to search the array of words looking for keywords to classify which files are spam or not. If you want to get fancy you could give each array a spam-score out of 10.

Answer-

I've created **ReadEmails.rb** program that reads the emails currently in text file format.

The email file program currently reads is

first_email = inputemail 'spamemail2.txt'

And the email file to process can be changed by changing file name which is highlighted in green colour.

First of all, a function is created that reads the file and adds all the words line by line into an empty string.

Calling this function will return a string containing all text of file.

```
def inputemail(filename)
  data = ''
  f = File.open(filename, "r")
  f.each_line do |line|
    data += line
  end
  return data
end
```

Second step is I've defined an array of spam words which I'm using as a type of dictionary and that matches each of the spam word with every word in the email.

Thus, if there are 10 spam words defined in my array as a spam dictionary it will match against say, 100 words in an email. That would be 10*100= 1000 comparisons to find out how many words matches in the email.

After that I've split every word of email from the string and used an array to insert all the words. Using nested Iterative loops, I'm making comparisons with every word of email and using a spamcounter variable to let me know the number of matches.

```
arrayofwords=first_email.split.each_slice(1).map{|a|a.join ' '}
arrayofspamwords.each do |spamword|

   arrayofwords.each do |actualword|

              if ((actualword.downcase=~ spamword).nil? == false)
                        spamcounter=spamcounter+1
                      end
             end
  end
```

At the final step, to calculate the score out of 10, I'm using formula which is

(spamcounter/ total number of words in my spam dictionary defined)*10

```
spamscoreresult=(spamcounter.to_f/arrayofspamwords.length)*10
```

2) Do some scraping using Nokogiri on an abitrarily selected web page from somewhere.

Answer-

The file name to execute is **nokogiri.rb**

- Identified the gems installed on my system using gem list.
- Installed nokogiri using command gem install nokogiri.
- Downloaded a static html web page from google by searching on google which lists all html pages.
- Using lecture slides created a program to list all Image tags and list tags on console screen .

3) Define your own class that illustrates the differences between public, private and protected methods. It should not be anything like the ones I did. Make sure that the methods you write do something more interesting than print out stuff

Answer-

The file to execute is **Accessmodifiers.rb** It tests some scenarios to access public,private and protected methods of class implicitly and explicitly.It also tests using subclass instances.(Inheritance)