1. dig and nslookup

* Find the IP address(es) of the Web server of our university (i.e., IPFW).  
    
  > nslookup -type=a www.ipfw.edu

Server: idnsa.ipfw.edu

Address: 149.164.1.13

Name: ipfw.edu

Address: 52.205.6.225

Aliases: [www.ipfw.edu](http://www.ipfw.edu)

* Find the names and the IP addresses of the domain name servers of our university.  
    
  > nslookup -querytype=ns [www.ipfw.edu](http://www.ipfw.edu)

www.ipfw.edu canonical name = ipfw.edu

ipfw.edu nameserver = dns2.ipfw.edu

ipfw.edu nameserver = dns1.ipfw.edu

ipfw.edu nameserver = idnsa.ipfw.edu  
  
> nslookup -type=a dns2.ipfw.edu

Name: dns2.ipfw.edu

Address: 149.164.255.253  
  
> nslookup -type=a dns1.ipfw.edu

Name: dns1.ipfw.edu

Address: 149.164.1.1  
  
> nslookup -type=a idnsa.ipfw.edu

Name: idnsa.ipfw.edu

Address: 149.164.1.13

* Find the names and the IP addresses of the mail servers of our university.  
    
  > nslookup -querytype=mx www.ipfw.edu

ipfw.edu MX preference = 0, mail exchanger = mailsec4.ipfw.edu

ipfw.edu MX preference = 0, mail exchanger = mailsec3.ipfw.edu

> nslookup -type=a mailsec4.ipfw.edu

Name: mailsec4.ipfw.edu

Address: 149.164.224.44  
  
nslookup -type=a mailsec3.ipfw.edu

Name: mailsec3.ipfw.edu

Address: 149.164.5.40

* User the ARIN whois database to determine the IP address range of our university (either go to ARIN website or use its RESTful API).  
    
  Search WhoisRWS > 149.164.1.13  
    
  149.164.0.0 - 149.164.255.255

1. HTTP Request and Response

* What is the main difference between HTTP GET request and HTTP POST request?   
    
  The GET method requests a specified resource and does not allow a message body while the POST method allows for a message body and is designed to work with HTML forms for collecting input from Web Users.
* When to use HTTP GET request and when to use HTTP POST request?

Use the GET method when you wish to invoke a server-side program to retrieve information and the POST method to send user input to the server.

* What does it mean for HTTP response status code 200, 301, and 404?  
    
  HTTP 200: OK, query was successful.  
  HTTP 301: MOVED PERMANENTLY, the requested URL has moved to a new location permanently.  
  HTTP 404: NOT FOUND, the requested resource was not found.

1. Web service. Install “Postman” application to your Chrome browser, and use it to find the latitude and the longitude of the following locations:
   * Fort Wayne, IN   
       
     "location": {

"lat": 41.079273,

"lng": -85.1393513

}

* + Miami, FL   
      
    "location": {

"lat": 25.7616798,

"lng": -80.1917902

}

* + San Francisco, CA  
      
    "location": {

"lat": 37.7749295,

"lng": -122.4194155

}