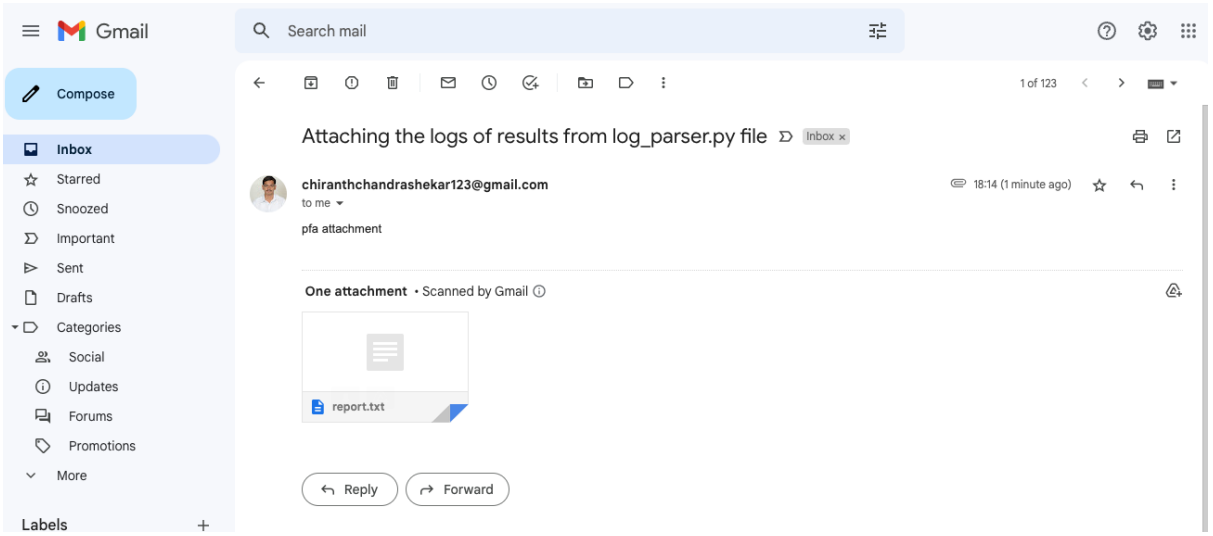
Log parsing + JSON - Assignment

Git Repository - https://github.com/CHIRANTH-C/logparsing.git
Assignment 1.
Log parsing, finish the send_email() function.

```
import re
import smtplib
from email.message import EmailMessage

# 1. Read the file
def read_logs(filepath):
   file_contents = open(filepath,'r')
   read_logs = file_contents.read()
   split_logs = read_logs.split('\n')
   file_contents.close()
   return split_logs

# 2. Match with regular expression
def parse_logs(logs,regexp):
   matched_logs = []
   for log_entry in logs:
       matches = re.match(regexp,log_entry)
       if matches:
           matched_groups = matches.groups()
           timestamp , func , process , message = matched_groups
           matched_logs.append((timestamp , func , process , message))
   return matched_logs

# 3. Generate the report
def generate_report(matched_logs):
   report_file = open("report.txt","w")
   entries = len(matched_logs)
   report_message = "The number of logs is: " + str(entries) + "\n"
   report_file.write(report_message)
   for log in matched_logs:
       report_file.write(str(log))
       report_file.write("\n")

# 4. Send the email of the report
# 4.1 Login to the sender email
def send_email(email_address,password,report1):
   EMAIL_ADDRESS = email_address
```

```
    EMAIL_PASSWORD = password

    msg = EmailMessage()
    msg['Subject'] = 'Attaching the logs !!'
    msg['From'] = EMAIL_ADDRESS
    msg['To'] = EMAIL_ADDRESS
    msg.set_content('pfa attachment')

    files = [report1]
    for file in files:
        with open(file,'rb') as f:
            file_data = f.read()
            file_name = f.name
        msg.add_attachment(file_data,maintype='appplication',subtype='octet-stream',
filename=file_name)

    with smtplib.SMTP('smtp.gmail.com',587) as smtp:
        smtp.ehlo()
        smtp.starttls()
        smtp.ehlo()

        smtp.login(EMAIL_ADDRESS,EMAIL_PASSWORD)

        smtp.send_message(msg)


logs_list = read_logs("logs.txt")
found_logs = parse_logs(logs_list,regexp=r'(.*) W (.*): (.*): (.*10091.*)')
generate_report(found_logs)
send_email('chiranthchandrashekar123@gmail.com','cjwjvuyxhjcxnmzq','report.txt')
```

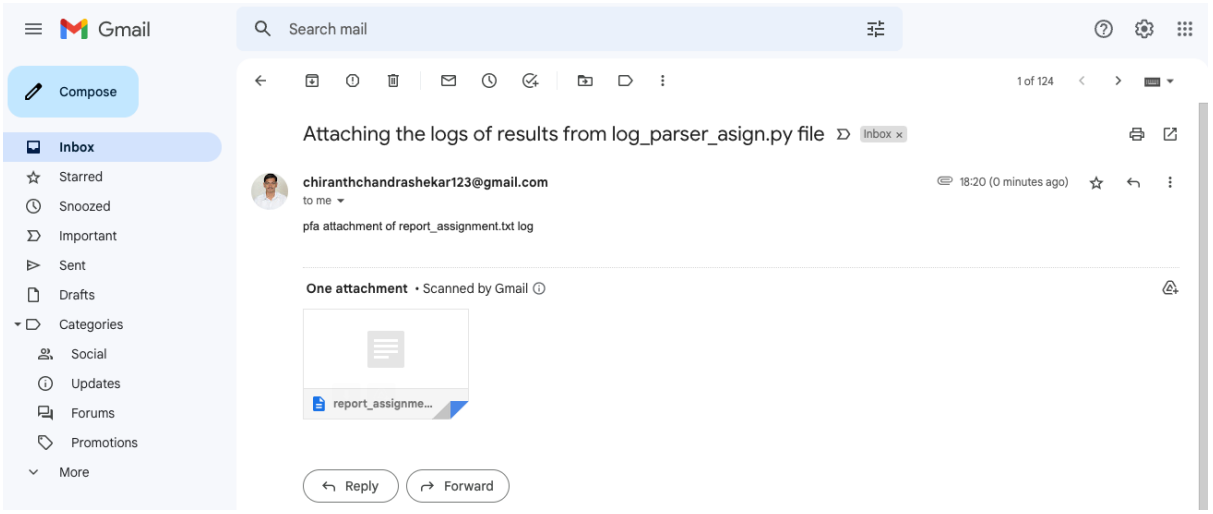


Assignment 2.

Write regex for ActivityManager Info and Warning, but not Debug

```
import re
import smtplib
from email.message import EmailMessage

# 1. Read the file
def read_logs(filepath):
   file_contents = open(filepath,'r')
   read_logs = file_contents.read()
   split_logs = read_logs.split('\n')
   file_contents.close()
   return split_logs

# 2. Match with regular expression
def parse_logs(logs,regexp):
   matched_logs = []
   for log_entry in logs:
       matches = re.match(regexp,log_entry)
       if matches:
           matched_groups = matches.groups()
           timestamp , func , process , message = matched_groups
           matched_logs.append((timestamp , func , process , message))
   return matched_logs

# 3. Generate the report
def generate_report(matched_logs):
   report_file = open("report_assignment.txt","w")
   entries = len(matched_logs)
   report_message = "The number of logs is: " + str(entries) + "\n"
   report_file.write(report_message)
   for log in matched_logs:
       report_file.write(str(log))
       report_file.write("\n")

# 4. Send the email of the report
def send_email(email_address,password,report1):
   EMAIL_ADDRESS = email_address
   EMAIL_PASSWORD = password

   msg = EmailMessage()
   msg['Subject'] = 'Attaching the logs !'
   msg['From'] = EMAIL_ADDRESS
   msg['To'] = EMAIL_ADDRESS
   msg.set_content('pfa attachment')
```

```
    files = [report1]
    for file in files:
        with open(file,'rb') as f:
            file_data = f.read()
            file_name = f.name
        msg.add_attachment(file_data,maintype='appplication',subtype='octet-stream',
filename=file_name)

    with smtplib.SMTP('smtp.gmail.com',587) as smtp:
        smtp.ehlo()
        smtp.starttls()
        smtp.ehlo()

        smtp.login(EMAIL_ADDRESS,EMAIL_PASSWORD)

        smtp.send_message(msg)


logs_list = read_logs("logs.txt")
found_logs = parse_logs(logs_list,regexp=r'(.*) ([I,W]) (ActivityManager): (.*)')
generate_report(found_logs)
send_email('chiranthchandrashekar123@gmail.com','cjwjvuyxhjcxnmzq','report_assignme
nt.txt')
```

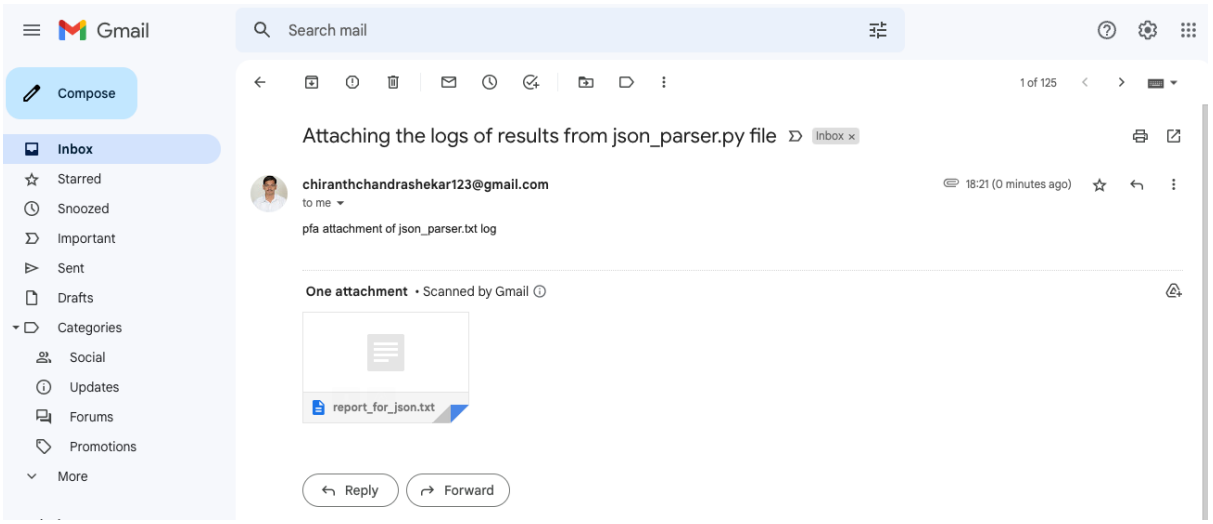


Assignment 3.
Finish generate_remote() and send_email()

```
import json
import smtplib
from email.message import EmailMessage

# 1. Read the json file
```

```
def read_json(filename):
    read_file = open(filename,'r')
    read_json_string = read_file.read()
    data_json = json.loads(read_json_string)
    return data_json

# 2. Parse the Json
def parse_json(read_data):
    parsed_json = []
    users_data = read_data["users"]
    total_data = read_data["total"]
    for user in users_data:
        if user["address"]["city"]=="Washington":

parsed_json.append((user["firstName"],user["lastName"],user["macAddress"]))
    return parsed_json

# 3. Generate the report
def generate_report(matched_logs):
    report_file = open("report_for_json.txt","w")
    entries = len(matched_logs)
    report_message = "The number of logs is: " + str(entries) + "\n"
    report_file.write(report_message)
    for log in matched_logs:
        report_file.write(str(log))
        report_file.write("\n")

def send_email(email_address,password,report1):
    EMAIL_ADDRESS = email_address
    EMAIL_PASSWORD = password

    msg = EmailMessage()
    msg['Subject'] = 'Attaching the logs of results from json_parser.py file'
    msg['From'] = EMAIL_ADDRESS
    msg['To'] = EMAIL_ADDRESS
    msg.set_content('pfa attachment of json_parser.txt log')

    files = [report1]
    for file in files:
        with open(file,'rb') as f:
            file_data = f.read()
            file_name = f.name
        msg.add_attachment(file_data,maintype='appplication',subtype='octet-stream',
filename=file_name)
```

```
    with smtplib.SMTP('smtp.gmail.com',587) as smtp:
        smtp.ehlo()
        smtp.starttls()
        smtp.ehlo()

        smtp.login(EMAIL_ADDRESS,EMAIL_PASSWORD)

        smtp.send_message(msg)

users_json = read_json("users.json")
parsed_json = parse_json(users_json)
generate_report(parsed_json)
send_email('chiranthchandrashekar123@gmail.com','cjwjvuyxhjcxnmzq','report_for_json
.txt')
```



Assignment 4.

Parse https://dummyjson.com/carts

Parse name and quantity for each product in each cart and generate report with total cart cost.

```
import json
import smtplib
from email.message import EmailMessage

# 1. Read the json file
def read_json(filename):
    read_file = open(filename,'r')
    read_json_string = read_file.read()
    data_json = json.loads(read_json_string)
    return data_json

# 2. Parse the Json
```

```
def parse_json(read_data):
    parsed_json = []
    total_cart_cost = 0
    carts_data = read_data["carts"]
    for cart in carts_data:
        for product in cart["products"]:
            parsed_json.append((product["title"],product["quantity"]))
            total_cart_cost = total_cart_cost + int(product["total"])
    return parsed_json , total_cart_cost

# 3. Generate the report
def generate_report(parsed_json , total_cart_cost):
    report_file = open("report_for_carts_json.txt","w")
    entries = len(parsed_json)
    report_message = "The number of logs is: " + str(entries) + "\n"
    report_file.write(report_message)
    for log in parsed_json:
        report_file.write(str(log))
        report_file.write("\n")
    report_file.write("total cart cost : "+str(total_cart_cost))

def send_email(email_address,password,report1):
    EMAIL_ADDRESS = email_address
    EMAIL_PASSWORD = password

    msg = EmailMessage()
    msg['Subject'] = 'Attaching the logs of results from json_parser_assign.py file'
    msg['From'] = EMAIL_ADDRESS
    msg['To'] = EMAIL_ADDRESS
    msg.set_content('pfa attachment of json_parser_assign.txt log')

    files = [report1]
    for file in files:
        with open(file,'rb') as f:
            file_data = f.read()
            file_name = f.name
        msg.add_attachment(file_data,maintype='appplication',subtype='octet-stream',
filename=file_name)

    with smtplib.SMTP('smtp.gmail.com',587) as smtp:
        smtp.ehlo()
        smtp.starttls()
        smtp.ehlo()

        smtp.login(EMAIL_ADDRESS,EMAIL_PASSWORD)
```

```
        smtp.send_message(msg)

carts_json = read_json("carts.json")
parsed_json , total_cart_cost = parse_json(carts_json)
generate_report(parsed_json , total_cart_cost)
send_email('chiranthchandrashekar123@gmail.com','cjwjvuyxhjcxnmzq','report_for_carts_json.txt')
```