Web Application Framework (WAF) – Fall 2024
Lab Task 3 (8th November 2024)

1. Use the os module to print information about your computer system's uptime. Also, use the path module to parse and display information about the .js file you are working in.
2. Make sure that you have the following npm packages installed:
   a. chalk
   b. colors
   c. validator
   d. prompt

   You can use *npm list -g –depth=0* command to display the list of installed packages. If any of the packages are not installed, follow the installation instructions from the package's documentation.
3. Write a node script that prompts your name. Validate against the rule that the firstletter of your name should be a capital letter. After the input and validation, display your name on the console with the text color of your choice and the background color of your choice.
4. Write a NodeJS script that:
   (i) Input an email address and an IPv4 address from the user and validate if the emailand the IP are in the correct format.
   (ii) You are given two .txt files "White.txt" and "Black.txt". Your task is to authenticatethe user-entered IP against the IP collection given in the files. Use www.mockaroo.com to generate these two files.
   (iii) If the user-given IP matches with an IP in "Black.txt" list, generate an errorcommunicating that the IP is blocked.
   (iv) If the user-given IP matches with an IP in the "White.txt" list, generate an authenticationsuccess message.
   (v) If the network address of the user-given IP matches the network address of any of the allowed IPs, generate a warning that your IP address belongs to a network whose IP has been authorized. The user should contact the administrator regarding this matter.
   (vi) If there is none of the above cases, add user entered IP into a text file named "Pending.txt" and display the user an error message communicating that system isunable to authenticate the IP.

   Note: Use an appropriate coloring scheme for displaying messages, i.e., green for success messages, orange for warning messages, and red for error messages.
5. Create a chat room on the local network of the lab.
   (i) To send a message, you will use the IP address of the receiver node instead of the local host (192.168.2.1:8080?message="your_message")
   (ii) To receive a message, you will create a server on your node listening on port 8080. Use URL module to parse the request url and extract the message.
   (iii) Using the file system module, keep the history of the chats.