21AIE112 Elements of Computing Systems-II
Assignment 6

Date: 27/04/2022   Due Date: 31/5/2022

❑   Course Outcomes

❖   CO1: Elaborate the important components of a MIPS computer system and the basic   organization

❖   CO2: Implement and execute low-level programming on the hardware platform

❖   CO3: Develop and test programs in object-based language 'Jack'

❖   CO4: Practice experiments related to basic concepts and functions of operating systems and compilers.

❑   **Answer all Questions**

Run the code in Jack Compiler and run the obtained VM codes in VM compiler and attach the outputs. All the output screenshots should be attached.

1. Write a Jack code to reverse the strings "**Avengers" and "redivider"**.   **[CO3]**

2. Write a JACK program to perform MERGE sort using recursion.   **[CO3]**

3. Write a JACK program to perform BINARY search.   **[CO3]**

4. Write a JACK program to find the smallest and largest number in an array.   **[CO3]**

5. Give a detailed description of JACK Syntax Analyzer. Explain various steps involved in Tokenizer and Parser including the API.   **[CO4]**