Himalaya College of Engineering
Tutorial – 2 (ALP 8086)
Microprocessor (BCT II / II)

Submission Date: 11th February, 2025 (Magh 29, 2081)

1. Write an assembly language program to perform the addition of a 100 natural even numbers and display the sum in screen. [sum = n (n+1)]

2. Write an assembly language program to convert the lower case vowels to upper case.

3. Write an assembly language program to count the number of vowels in the entered string.

4. Write an assembly language program in 8086 to read ten 8-bit decimal numbers, add them and display the result in the clear screen.

5. Write an assembly language program to get n^{th} number from the user and sum the odd numbers from 1 to n^{th} term and display sum. [sum = n^2]

6. Write an assembly language program for sorting arrays of numbers and display each number in separate line.

7. Write an assembly language program for 8086 to find the sum of the following series. x + 2x + 3x + 4x + … to ten terms. Where x is a two digit number entered by the user. Display the result.

8. Write an assembly language program to calculate sum of the series $1^2+2^2+3^2+4^2+$ … up to ten terms and display the result.

9. Write an assembly language program for 8086 to read a string and find the number of alphabets, numerals and other characters. Display the different counts.

10. Write an assembly language program to get username “bebct” and password “engineering”; display message “Login Successful” on the screen if the username and password are matched otherwise display “Invalid Login”.

11. Write a program to generate multiplication table of five numbers stored in memory as array, store the result and display in following format.
    5 10 15 20 25 30 35 40 45 50
    3 6 9 12 15 18 21 24 27 30
    … … … …
12. Write an assembly language program for 8086 to read string count the number of vowels in the string and display the string and its vowels count in a clear screen.

13. Write an assembly language program for 8086 to sort an array of ten numbers stored in memory. Display the numbers in the screen after sorting.

14. Write a program to read a string and separate the words from the string. Display each word at the center of each line of a clear screen with blue background and cyan foreground.

15. Write assembly language program for 8086 to sort five numbers in ascending and descending order.

16. Write an assembly language program to read a string from the user, convert it to upper case, count the number of words and display each word in each line and number of words.

17. Write a program to read a string, convert the small case letters to upper case and display the converted string in the next line.

18. Write an 8086-assembly language program to sort ten 16-bit data stored in a table and display the numbers as decimal numbers in the screen.

19. Write an assembly language program for 8086 to find the largest number among 10 numbers stored as array.

20. Write an 8086-assembly language program to separate words from a string. Display each word in separate line.