**Instructions:** Students must complete this assignment by writing and executing each program using the **CPULator ARMv7 (ARM7TDMI)** simulator.
For every question, write the corresponding assembly code on the CPULator website, test it for correctness, and then **save each program file separately**.
All saved files must be submitted as part of the final assignment submission.

Q 1. Write an ARM7 assembly language program to calculate the **factorial of a number**.

Q 2. Write an ARM7 assembly language program to **reverse an array using the stack**.

Q 3. Write an ARM7 assembly language program to **increment each element of an array by 1**.

Q 4. Write an ARM7 assembly language program to **count the total number of set bits (1s)** in a given 32-bit number.

Q 5. Write an ARM7 assembly language program to **convert a lowercase alphabet to uppercase**.

Q 6. Write an ARM7 assembly language program to **check whether a given character is a vowel or consonant**.

Q 7. Write an ARM7 assembly language program to **find the length of a null-terminated string**.

Q 8. Write an ARM7 assembly language program to **reverse a string in memory**.

Q 9. Write an ARM7 assembly language program to **find the maximum element in an integer array**.

Q 10. Write an ARM7 assembly language program to **copy a block of memory** from one location to another.