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ALGORITHM EXERCISE # 5.2

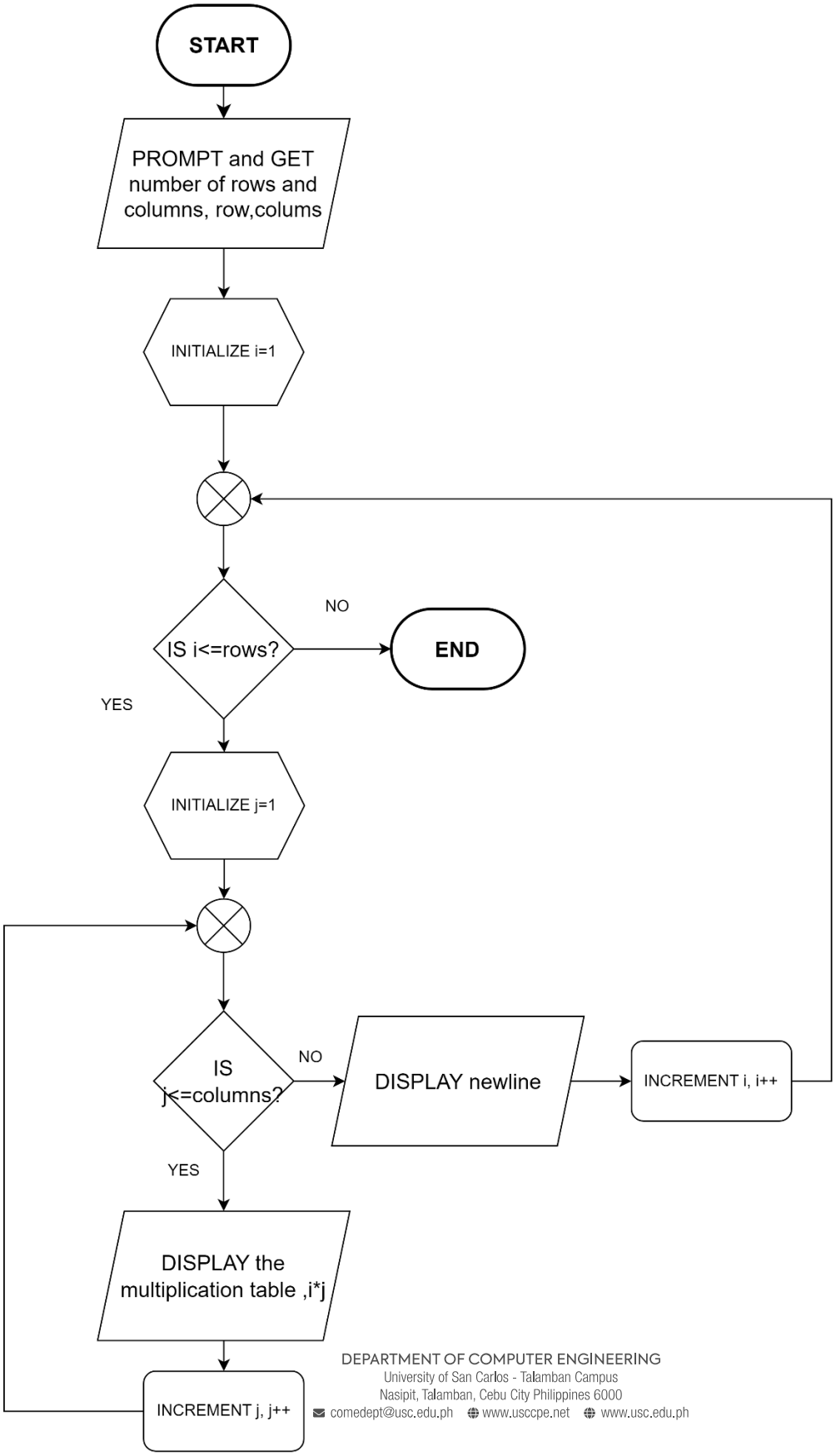
LE 5.21: **Multiplication Table (Pseudocode)**

START

1. PROMPT and GET the number of rows and columns, rows, columns
2. FOR (i = 1; i <=rows; i++) DO
    a. FOR(j = 1; j <= columns; j++) DO
        i. DISPLAY table, i * j
    b. ENDFOR
    c. DISPLAY new line
3. ENDFOR

END

LE 5.21: **Multiplication Table (Flowchart)**

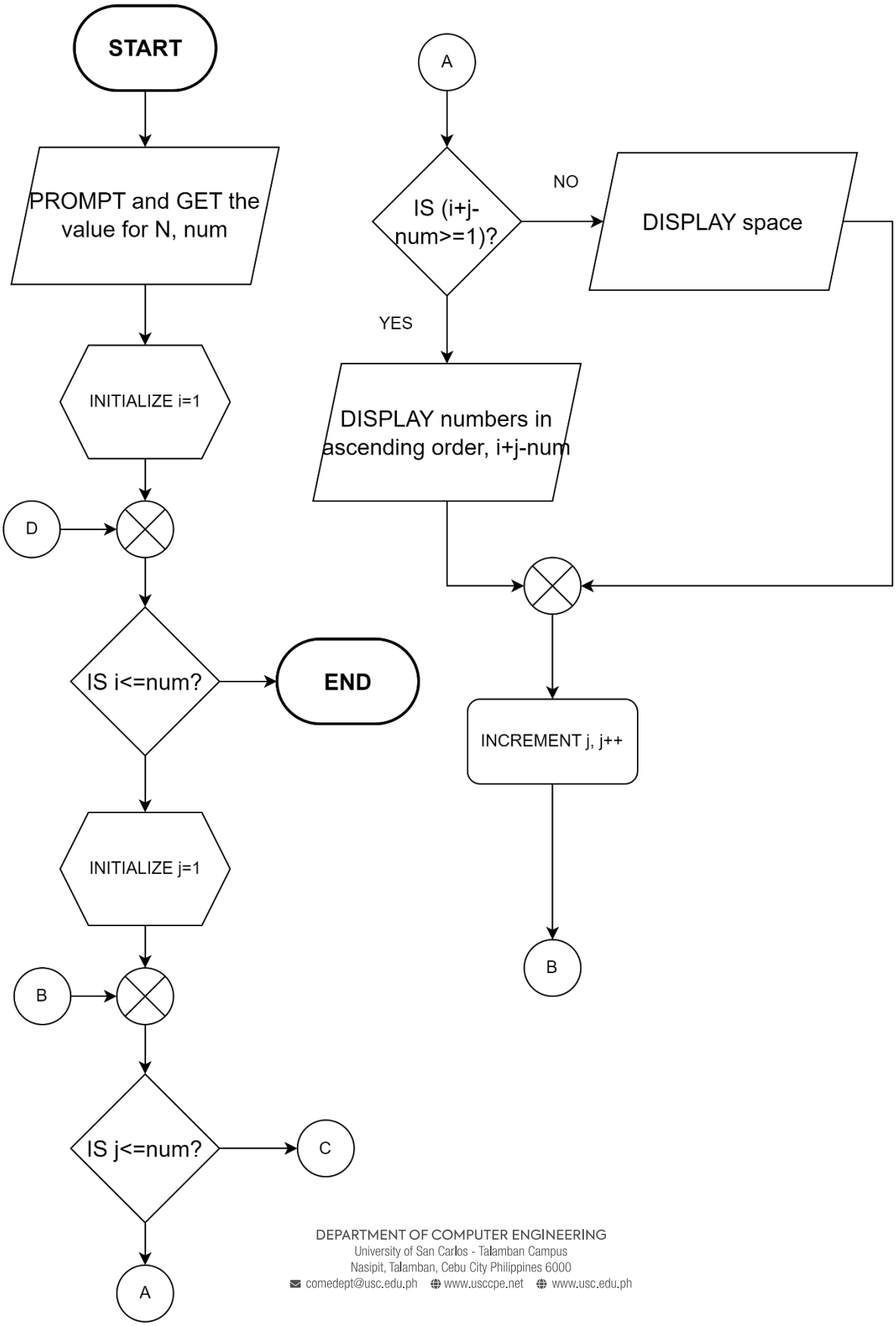


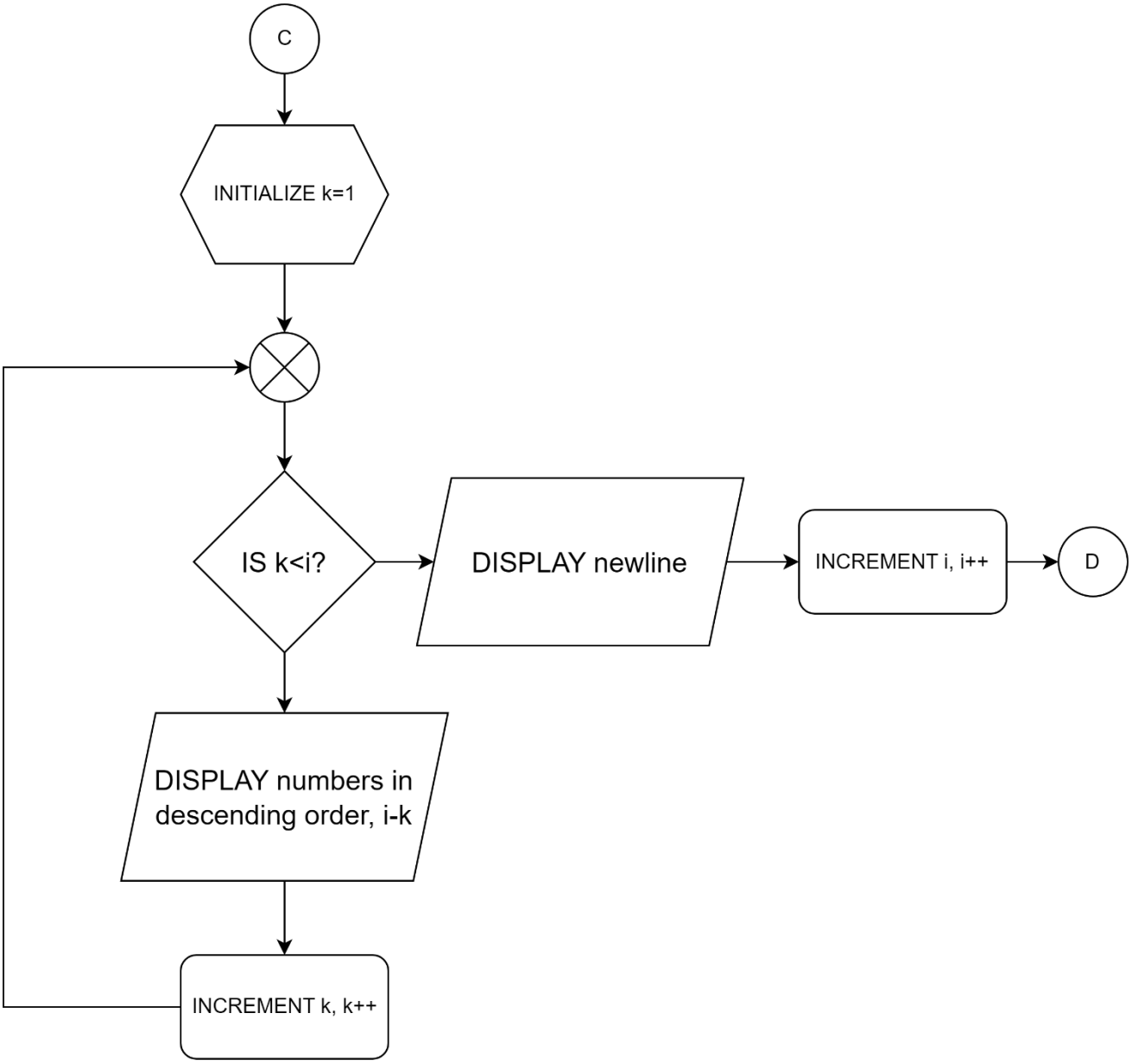
LE 5.22: **Pyramid (Pseudocode)**

START
1. PROMPT and GET the value for N, num
2. FOR (i = 1; i <=rum; i++) DO
    a. FOR(j = 1; j <= num; j++) DO
        i. IF (i + j – num >= 1) THEN
            1. DISPLAY numbers in ascending order, i + j - num
        ii. ELSE
            1. DISPLAY space
        iii. ENDIF
    b. ENDFOR
    c. FOR (k = 1; k <i ;k++) THEN
        i. DISPLAY numbers in descending order, i - k
    d. ENDFOR
    e. DISPLAY newline
3. ENDFOR

END

LE 5.22: **Pyramid (Flowchart)**




C
INITIALIZE k=1
IS k<i?
DISPLAY newline
INCREMENT i, i++
D
DISPLAY numbers in descending order, i-k
INCREMENT k, k++

LE 5.23: **Fibonacci Sequence (Pseudocode)**

START
1. INITIALIZE term1 = 1, term2 = 2
2. PROMPT and GET limit of Fibonacci sequence, limit
3. DISPLAY Fibonacci sequence:
4. FOR (i = 1,i <= limit; i++)
    a. DISPLAY term1
    b. CALCULATE nextTerm, nextTerm = term1 + term2;
    c. CALCULATE term1, term1 = term2
    d. CALCULATE term2, term2 = nextTerm
5. ENDFOR

END

LE 5.23: **Fibonacci Sequence (Flowchart)**