

Faculty of Computing and Information Technology



Programming Fundamentals Lab
Pre-Lab – 08
BSIT Spring 2025, Morning/Afternoon

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TASK 1:

Print all even numbers between 1 and N using recursion.

Question Statement:

You are asked to write a **recursive function** that prints **only even numbers** starting from **1** up to a given number N.

Example:

If **N=10**, your output should be: **2 4 6 8 10**

TASK 2:

Finding Greatest Common Divisor

Write a recursive function to find the Greatest Common Divisor (GCD) of two positive integers.

- GCD of two numbers is the largest number that divides both of them without leaving a remainder.
- For example:
 - GCD of 48 and 18 is 6.
 - GCD of 20 and 8 is 4.

TASK 3:

Reverse a string using recursion.

Question Statement:

You have to **write a recursive function** that takes a string and **returns it in reverse order**.

For example:

- Input: "hello"
- Output: "olleh"

The first character becomes the last, the second character moves near the end, and so on.

TASK 4:

Calculate the power of a number (a^b) using recursion.

Question Statement:

You need to write a recursive function that calculates **a raised to the power of b** (i.e., a^b), where:

- **a** is the base number,
- **b** is the exponent (the power).

For example:

- If $a = 2$ and $b = 3$, then $2^3 = 2 \times 2 \times 2 = 8$.
- If $a = 5$ and $b = 4$, then $5^4 = 5 \times 5 \times 5 \times 5 = 625$.

*"The best programmers write their code like they write
their grocery lists— brief, to the point,
and never missing a semicolon!"*