CO3.1. Create a **package graphics** with **modules rectangle, circle & sub-package 3D-graphics with modules cuboid & sphere**. Include methods to **find area & perimeter** of respective figures in each module. Write programs that **finds area and perimeter** of figures by **different importing statements**. (Include selective import of modules )

Algorithm

Step 1: Start

Step 2: Create Package Structure:

- Create a directory named graphics within the D:\python lab\Python Record\package directory.
- Create an empty file named __init__.py within the graphics directory.
- Create sub-directories:
  - graphics/rectangle.py
  - graphics/circle.py
  - graphics/graphics3d
  - graphics/graphics3d/__init__.py
  - graphics/graphics3d/cuboid.py
  - graphics/graphics3d/sphere.py

Step 3: Define Rectangle Functions (rectangle.py):

- In rectangle.py:
  - Define the area(length, breadth) function to calculate the area of a rectangle.
  - Define the perimeter(length, breadth) function to calculate the perimeter of a rectangle.

Step 4: Define Circle Functions (circle.py):

- In circle.py:
  - Import the math module.
  - Define the area(r) function to calculate the area of a circle.
  - Define the perimeter(r) function to calculate the perimeter of a circle.

Step 5: Define Cuboid Functions (cuboid.py):

- In cuboid.py:
  - Define the area(length, breadth, height) function to calculate the surface area of a cuboid.
  - Define the perimeter(length, breadth, height) function to calculate the perimeter of a cuboid.

Step 6: Define Sphere Functions (sphere.py):

- In sphere.py:
  - Import the math module.
  - Define the area(radius) function to calculate the surface area of a sphere.
  - Define the perimeter(radius) function to calculate the perimeter of a sphere.

Step 7: Create Main Program (`D:\python\lab\Python Record\package`\graphicsMain.py):

- In graphicsMain.py:
  - Import required functions using selective imports:
    - from graphics.rectangle import area as rect_area, perimeter as rect_perimeter
    - from graphics.circle import area as circ_area, perimeter as circ_perimeter
    - from graphics.graphics3d.cuboid import area as cuboid_area, perimeter as cuboid_perimeter
    - from graphics.graphics3d.sphere import area as sphere_area, perimeter as sphere_perimeter [1]
  - Prompt the user for input (length, breadth, radius, height).
  - Call the appropriate functions to calculate and print the area and perimeter for each shape.

Step 8: Run the Program:

- Execute the graphicsMain.py script.

Step 9: End