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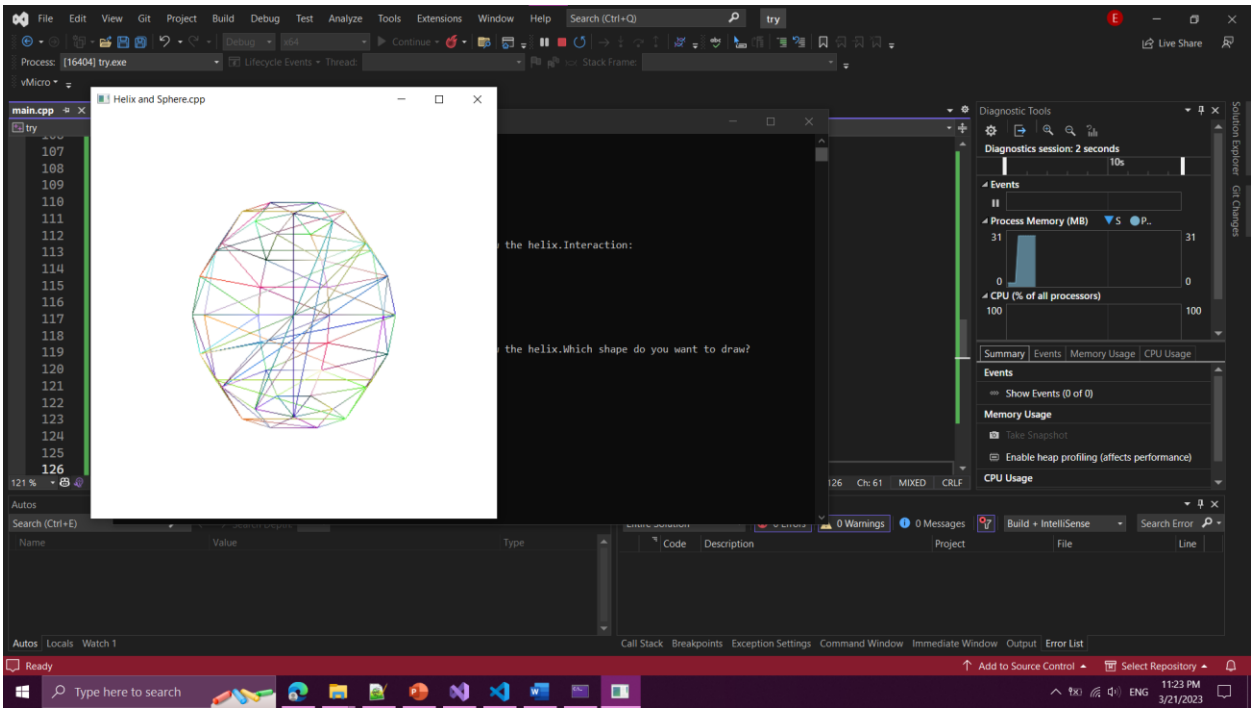
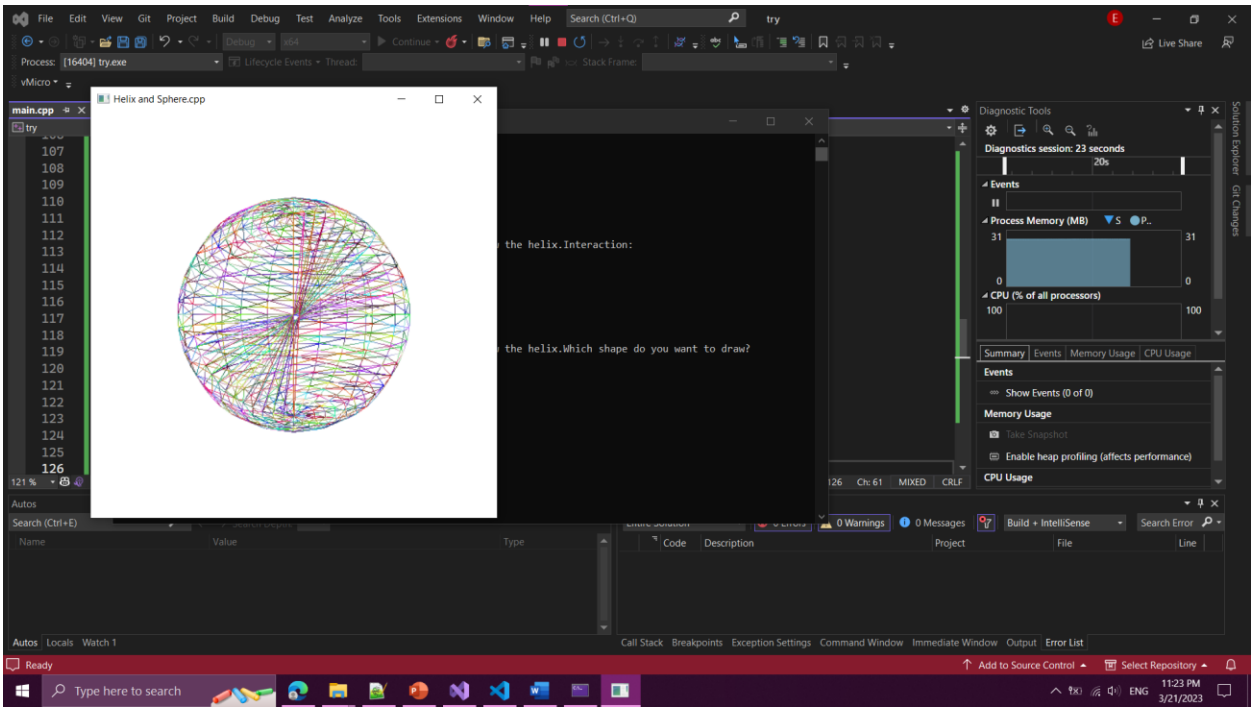
➢ code flow: The program has the following functions:

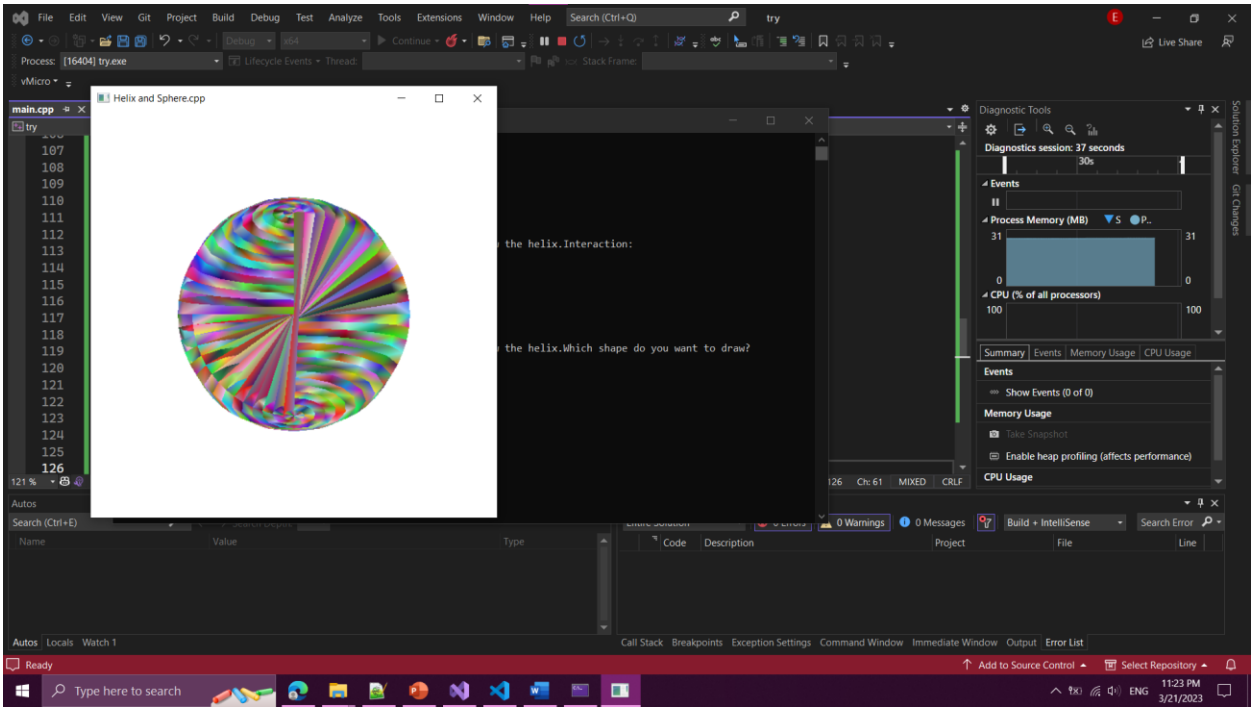
- setup: sets the clear color for the graphics window.
- drawScene: draws the chosen shape (sphere or helix) using OpenGL, it clears the color buffer and sets up the modelview matrix by translating and rotating the scene based on the user's input. It then checks the user's choice of shape.
  If the user has chosen a sphere, it checks whether the sphere should be drawn in wireframe or filled mode and sets the polygon mode accordingly. It then uses for loops to iterate over each latitudinal triangle strip and draw it using OpenGL commands.
  If the user has chosen a helix, the program sets the polygon mode to GL_LINE and calculates the coordinates of the helix vertices based on the radius, pitch, and number of vertices. It then uses a for loop to iterate over each vertex and draw it using OpenGL commands.
- The main function, which initializes the graphics window, registers the callback functions, and starts the main graphics loop. It updates the rotation angles based on the elapsed time since the last frame and calls the drawScene function to redraw the scene.
- The loop continues until the user closes the window or quits the program.

➢ screenshots:

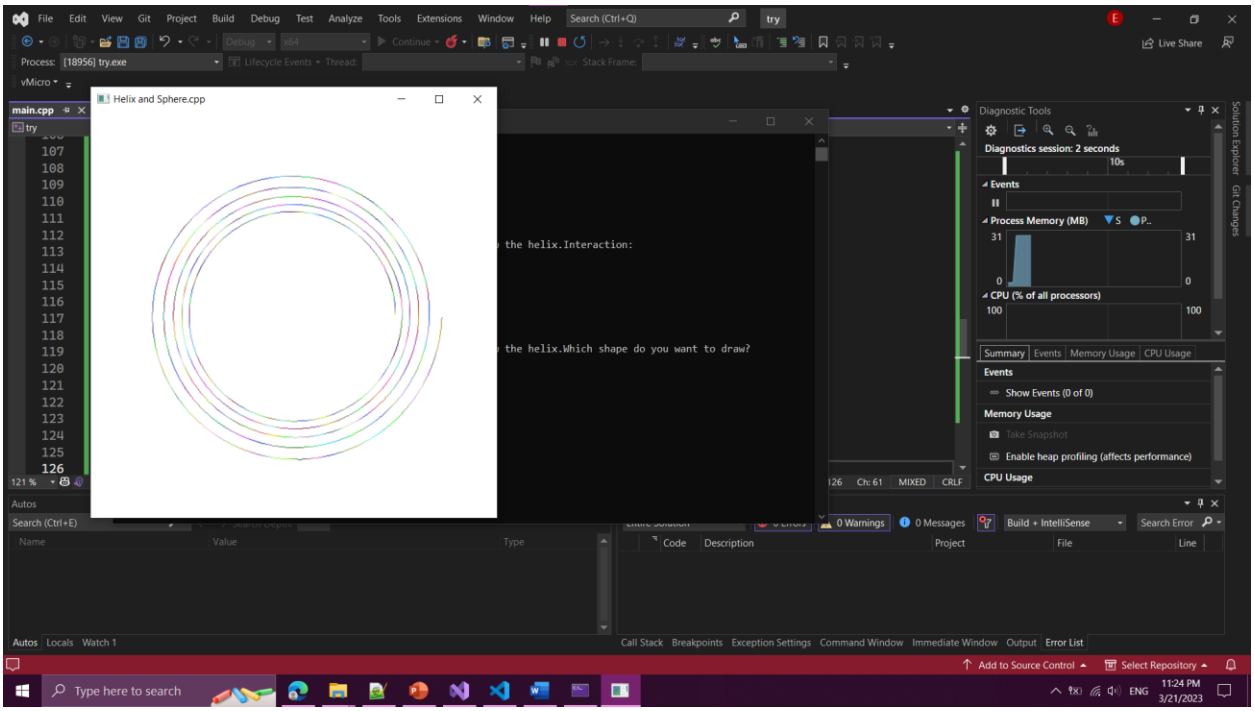
- The Sphere:

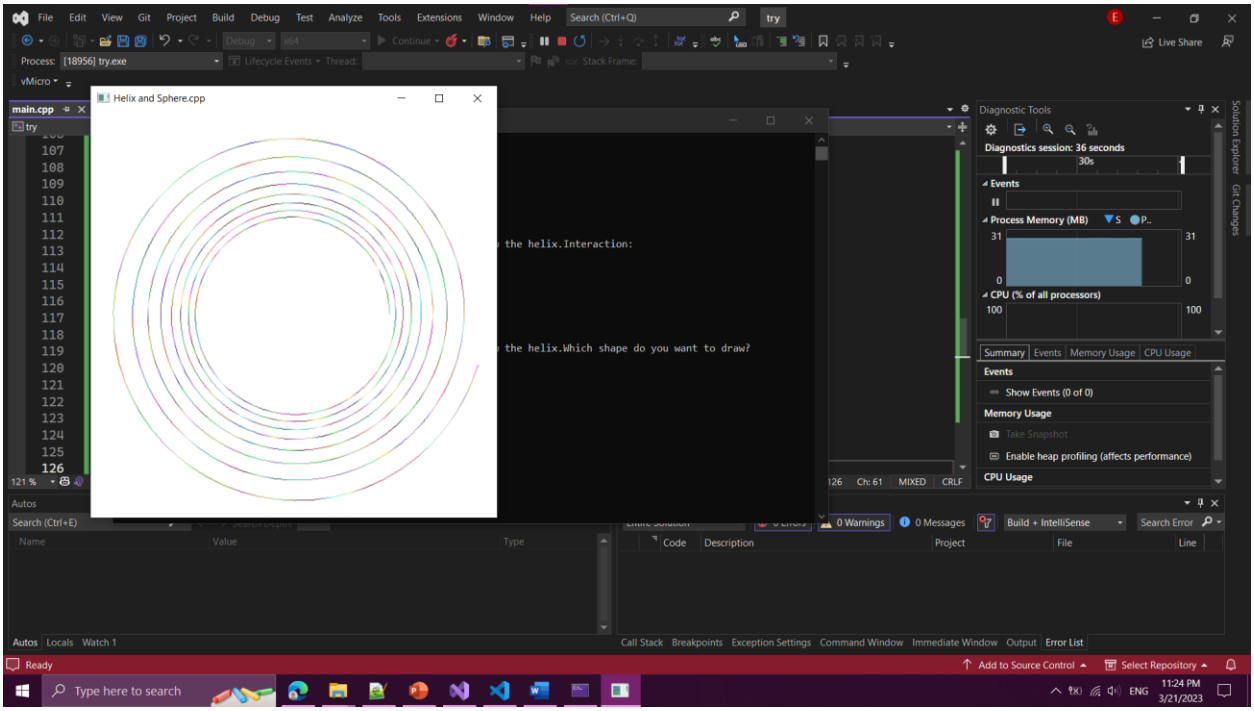



Helix and Sphere.cpp
the helix.Interaction:
the helix.Which shape do you want to draw?


Helix and Sphere.cpp
the helix.Interaction:
the helix.Which shape do you want to draw?

- The Helix


Helix and Sphere.cpp
the helix.Interaction:
the helix.Which shape do you want to draw?
Diagnostics session: 2 seconds
Process Memory (MB)
CPU (% of all processors)
Summary
Events
Memory Usage
CPU Usage
Show Events (0 of 0)
Take Snapshot
Enable heap profiling (affects performance)
Type here to search


Helix and Sphere.cpp
the helix.Interaction:
the helix.Which shape do you want to draw?
Diagnostics session: 36 seconds
Process Memory (MB)
CPU (% of all processors)
Summary
Events
Memory Usage
CPU Usage
Show Events (0 of 0)
Take Snapshot
Enable heap profiling (affects performance)
Type here to search