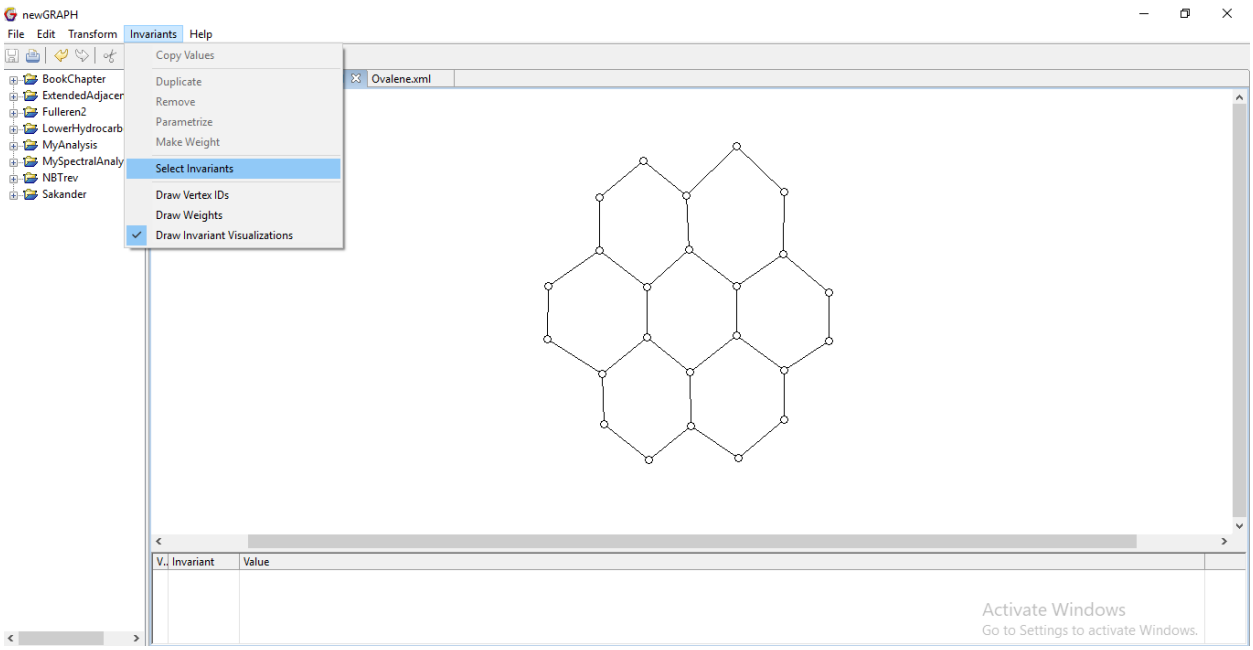
Workflow of our proposed method with a Minimal Working Example (MWE)

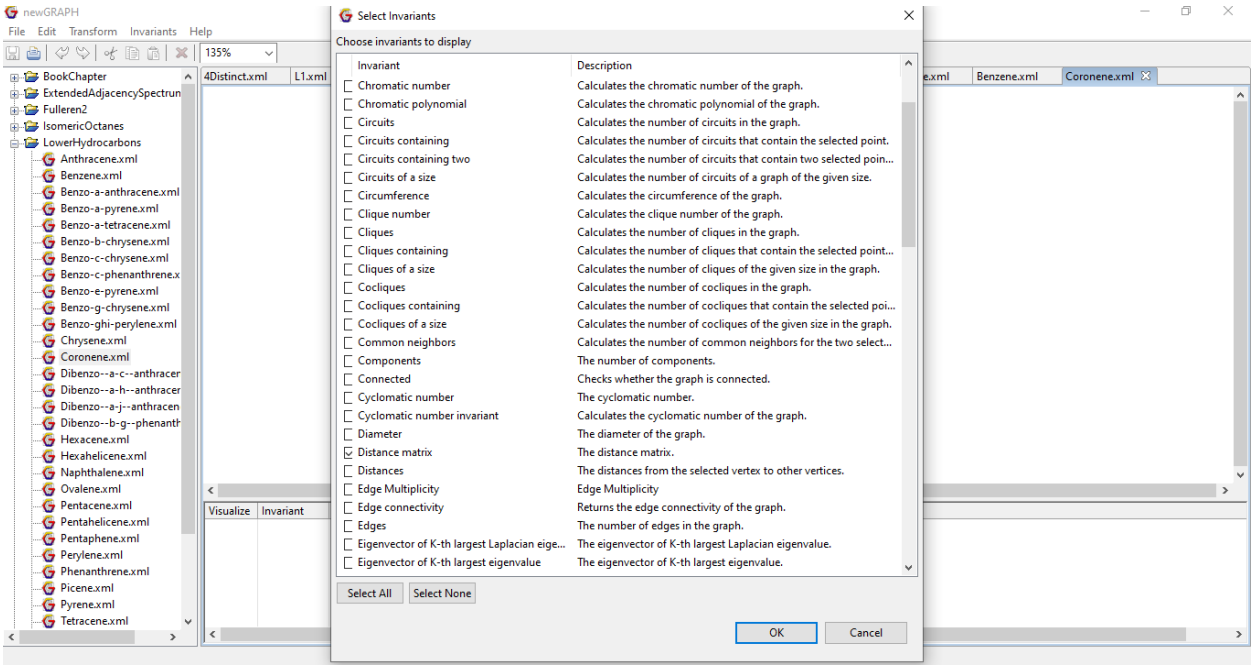
In this document, we will explain the working pattern of our technique to compute certain distance-based spectral descriptors of graphs.

1. Let *G* be a graph for which you want to compute a distance-based spectral topological index from the following list:
   i. Distance spectral radius
   ii. Distance energy
   iii. Distance Estrada index
   iv. Distance Laplacian spectral radius
   v. Distance Laplacian energy
   vi. Distance Laplacian Estrada index
   vii. Distance signless Laplacian spectral radius
   viii. Distance signless Laplacian energy
   ix. Distance signless Laplacian Estrada index
   x. Harary spectral radius
   xi. Harary energy
   xii. Harary Estrada index
   xiii. Szeged spectral radius
   xiv. Szeged energy
   xv. Szeged Estrada index
   xvi. PI spectral radius
   xvii. PI energy
   xviii. PI Estrada index
   xix. Degree-distance spectral radius
   xx. Degree-distance energy
   xxi. Degree-distance Estrada index
   xxii. Schultz spectral radius
   xxiii. Schultz energy
   xxiv. Schultz Estrada index
   xxv. Second atom-bond connectivity spectral radius
   xxvi. Second atom-bond connectivity energy
   xxvii. Second atom-bond connectivity Estrada index
   xxviii. Second geometric-arithmetic spectral radius
   xxix. Second geometric-arithmetic energy
   xxx. Second geometric-arithmetic Estrada index
   xxxi. Gutman spectral radius
   xxxii. Gutman energy
   xxxiii. Gutman Estrada index

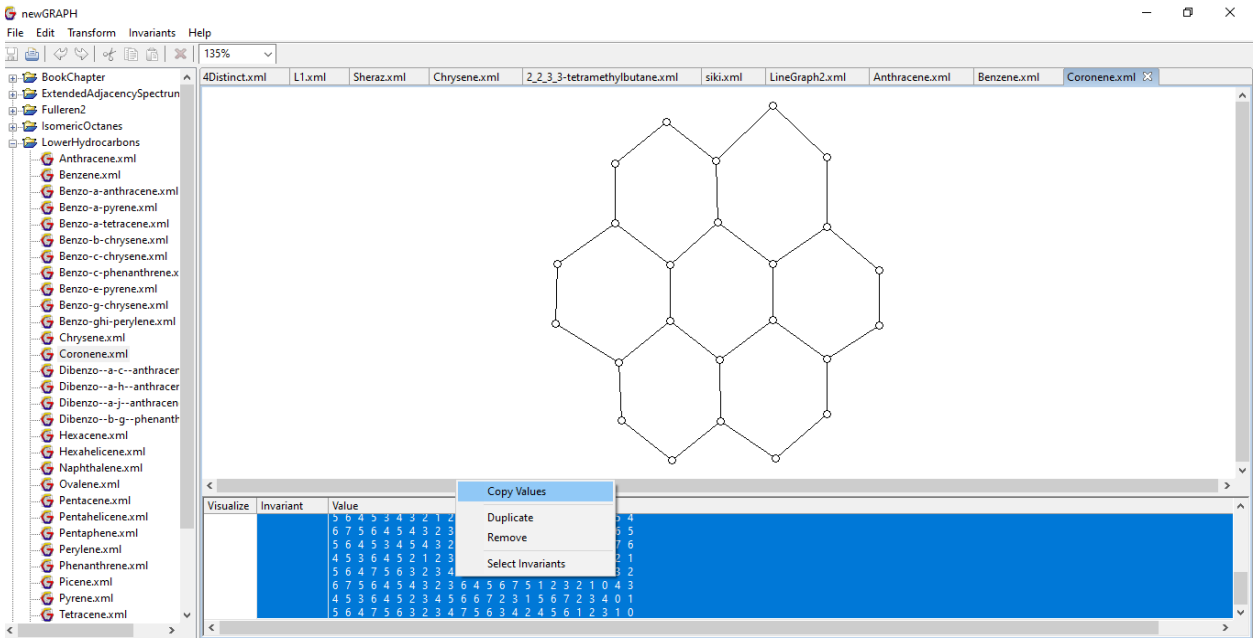
We would like to set the coronene graph as our MWE.

2. In first step, we draw graph *G* on newGraph and choose “Adjacency matrix” and “Vertices” as “Select Invariants” under the “Invariants” tab as follows:

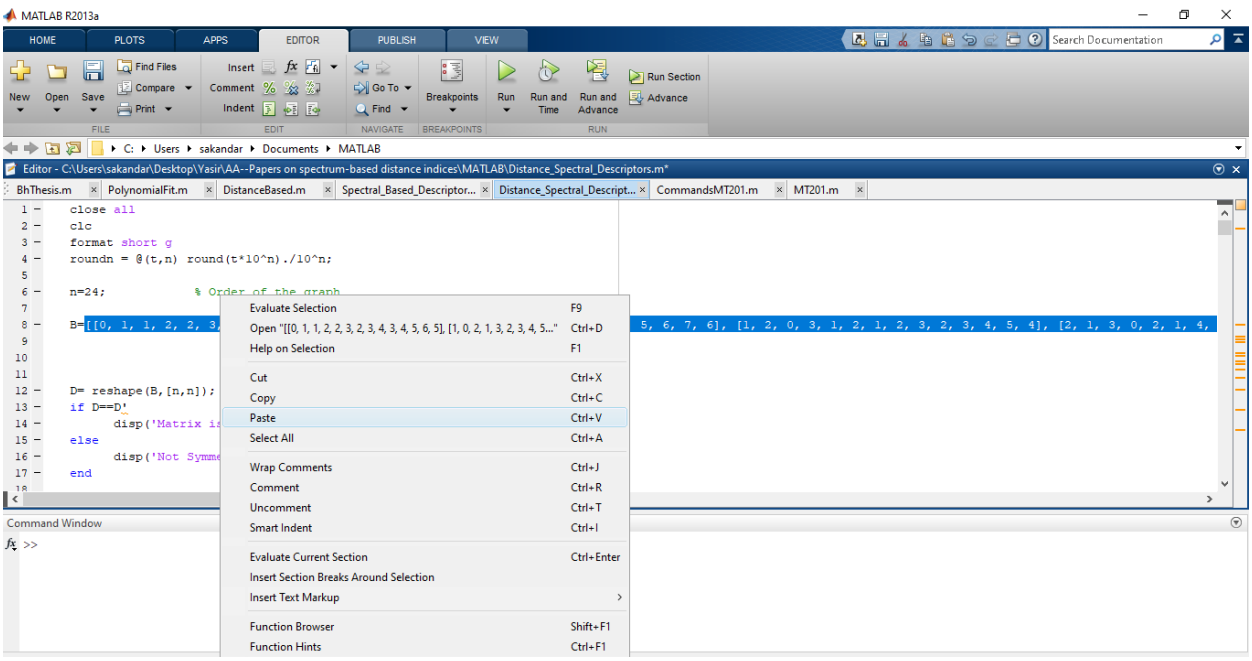




3. By right clicking on the matrix values, select “Copy Values” as follows:



4. Paste the copied matrix values from newGraph to Matlab in Distance_Sepctral_Descriptors.m file. Change the value of *n* which is 24 in our MWE.



5. Click "run" to obtain the result as follows: