Hot Issue

1. Unable to manually create the 4x4 grid with neighboring nets using geogLayout due to complication in the geogHints order.

Ongoing Actions

1. Implement another parameter (connectionType) in the function outputHotSpotLayout for gridLayout. A more reasonable way to define the nets algorithmically among different components is to do it when they are assigned x and y position.
2. I will define the first two connectionTypes: None and Mesh.
   1. None is for regression test.
   2. Mesh is for the 4x4 grid with neighboring nets. It could be a specific 4x4grid example.
3. Once this works I will then move onto updating tofig.pl for FPNets visualization.

Future Actions

1. Experiment the 4x4 grid layout using ParquetFP with different Area/WL/AR.
2. Define more connection types in FPNets.
3. Experiment the new connection types using ParquetFP with different Area/WL/AR.
4. Experiment more different layouts.
5. Validate Legalization and its various features
6. Validate FPNets
7. Validate more on .blocks/.nets file generation

Goal

1. Provide experimental and measurable results that showcase ArchFP is better than ParquetFP in generating floorplan, especially when the amount of components increase.

Completed Actions

1. Added the algorithm and features for floorplan legalization
   1. Switchable (on-off)
   2. Overlap detection
      1. Main legalization algorithm: detect the overlap and retry to a maximum amount of times defined by user.
   3. TopBottom Inversion
      1. Optimization algorithm: Bottom component should be given priority at layout to reduce the deadspace.
   4. ChangeArea
      1. Legalization parameter: User chooses whether the component will expand in area when re-layout.
2. Added the FPNets and wiring for the FPContainer
   1. Switchable (on-off)
   2. Wire length calculation
3. Added .block/.nets file generation