***1.Open the OPENLANE Software***

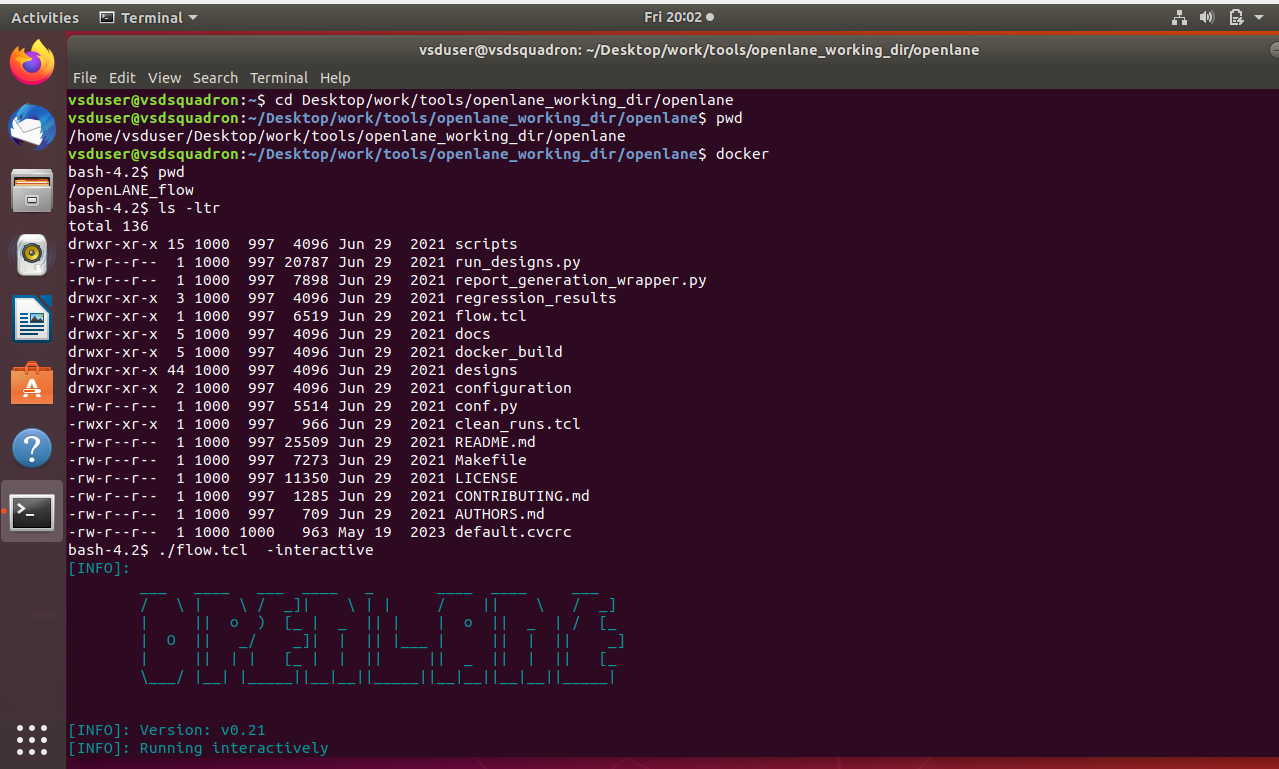
cd Desktop/work/tools/openlane\_working\_dir/openlane

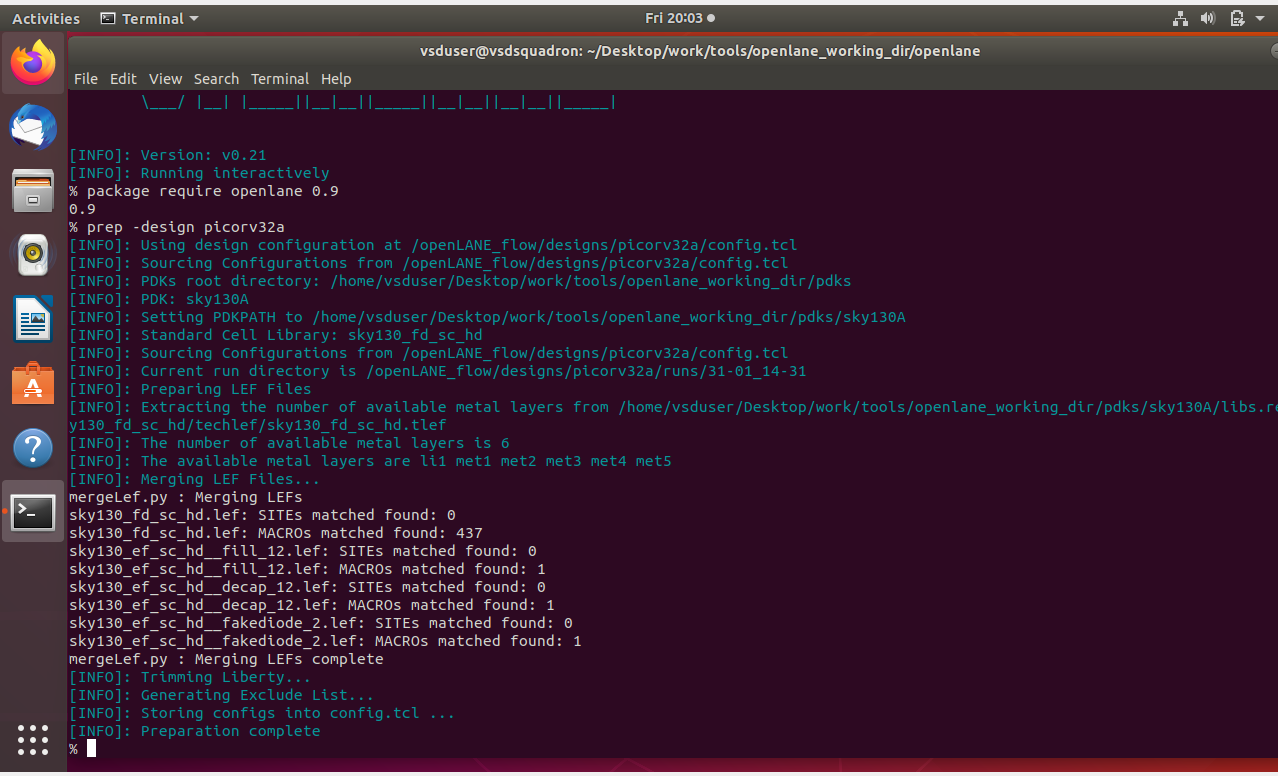
Desktop/work/tools/openlane\_working\_dir/openlane$ docker

./flow.tcl -interactive

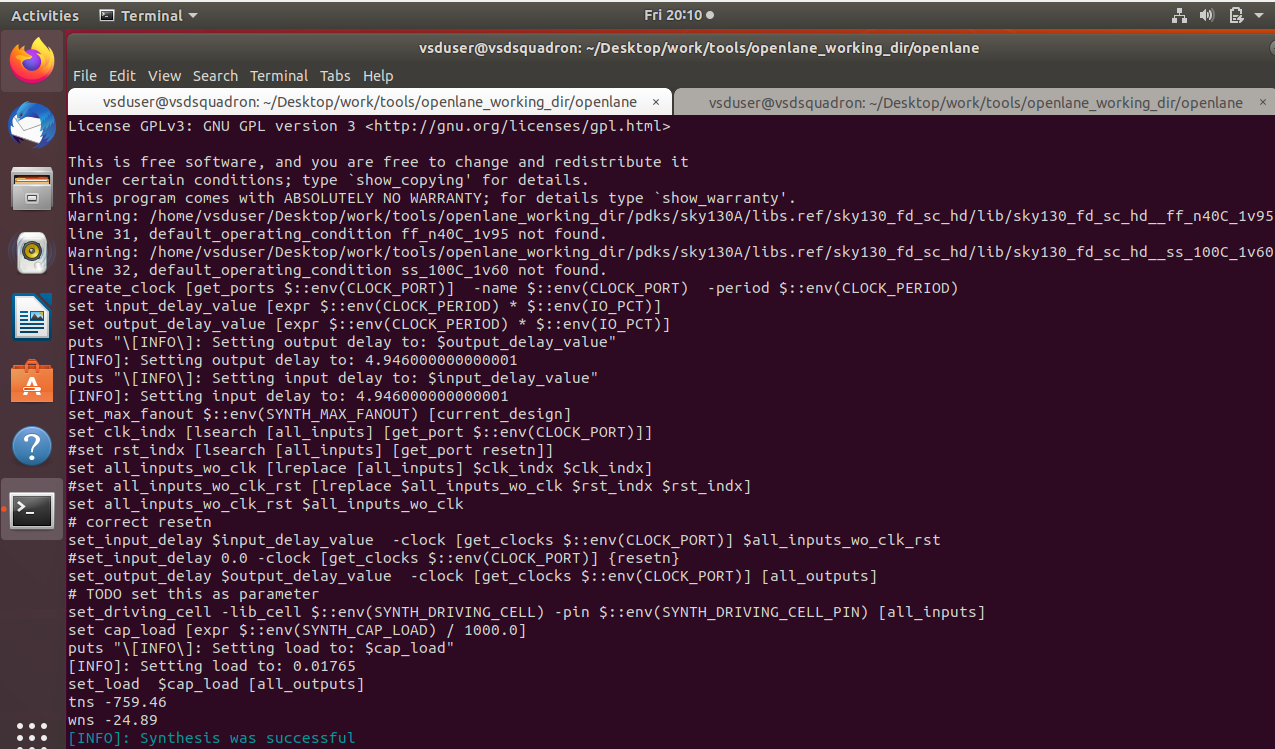
% package require openlane 0.9

% prep –design picorv32a

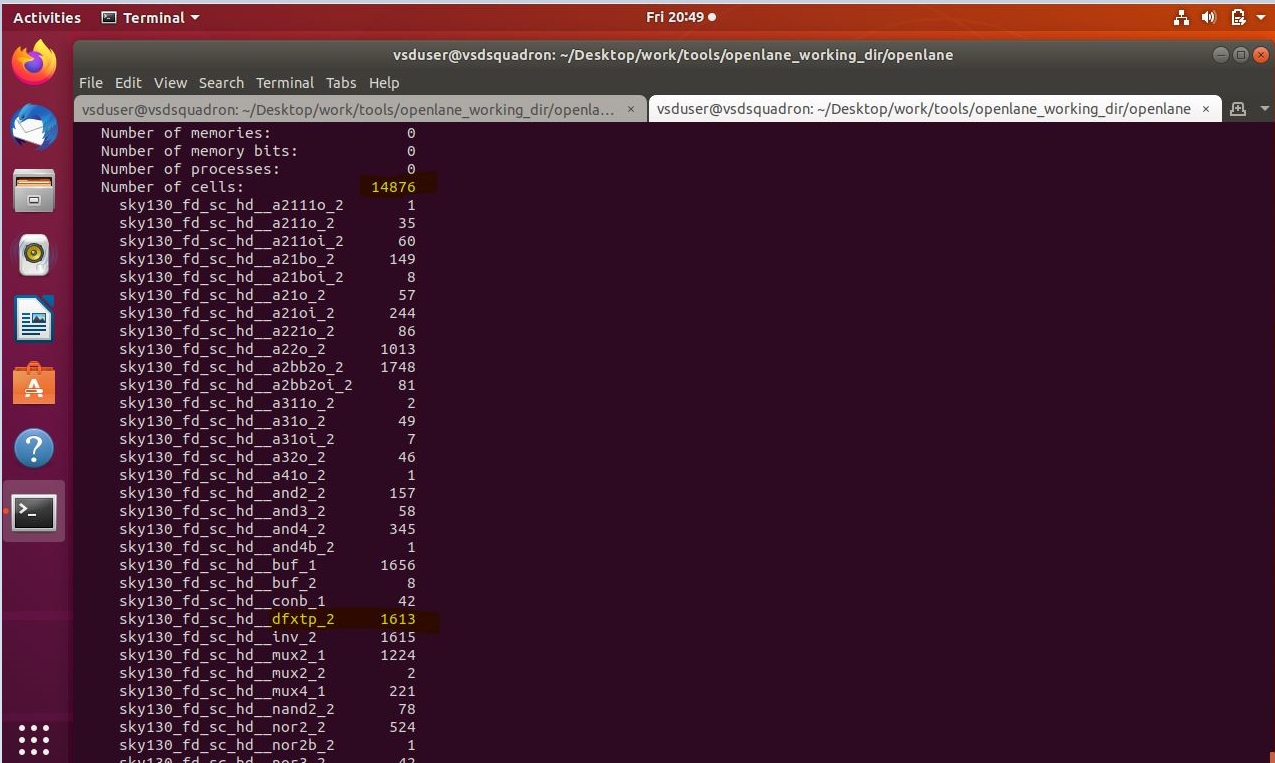




2.% run\_synthesis (Command for Synthesis)



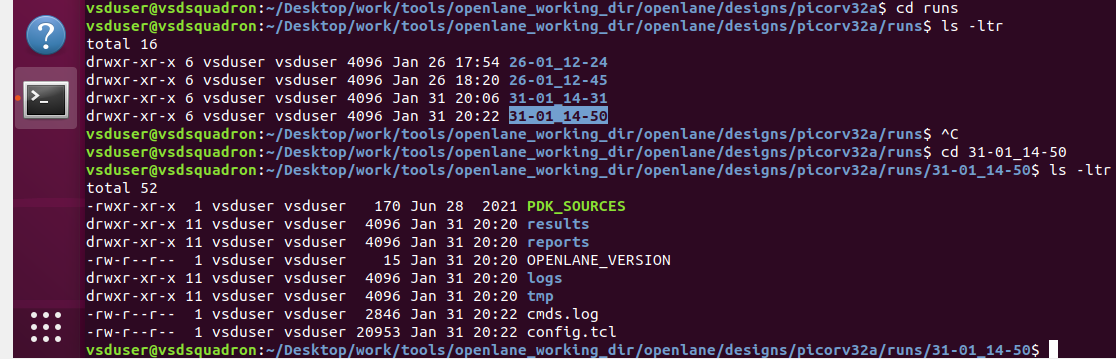
3.Reviewing synthesis results

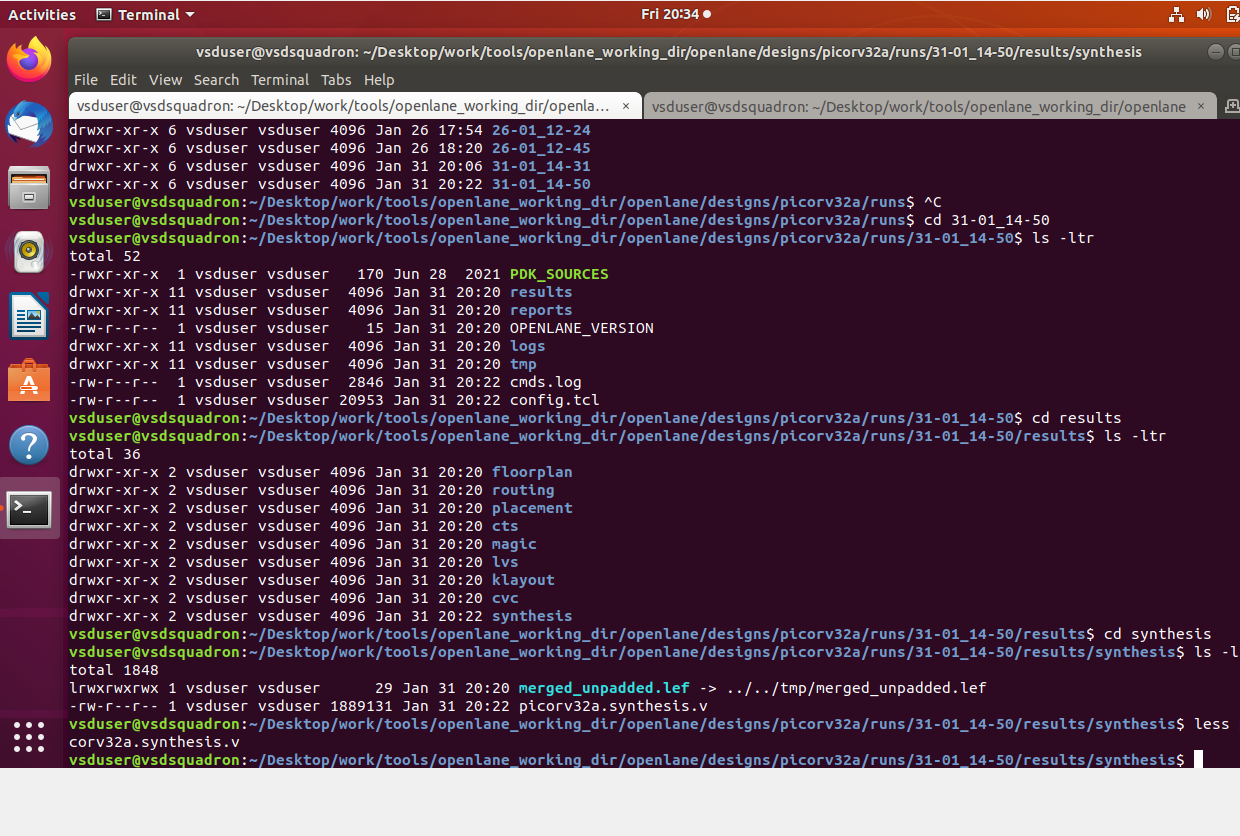


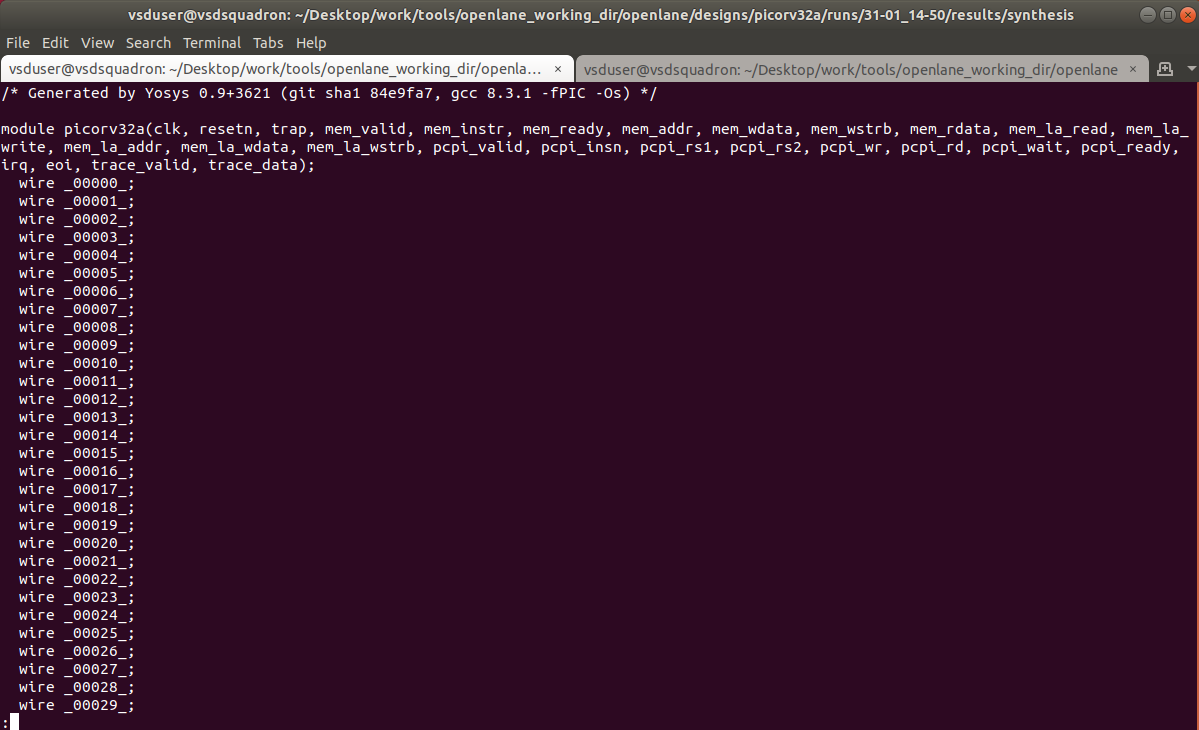
Flop ratio=Flipflop cell/Total number of cells

=1613/14876

* cd Desktop/work/tools/openlane\_working\_dir/openlane/designs/picorv32a/runs
* Desktop/work/tools/openlane\_working\_dir/openlane/designs/picorv32a/runs$ ls -ltr
* Desktop/work/tools/openlane\_working\_dir/openlane/designs/picorv32a/runs$ cd date\_time
* Desktop/work/tools/openlane\_working\_dir/openlane/designs/picorv32a/runs/ date\_time$ cd results
* Desktop/work/tools/openlane\_working\_dir/openlane/designs/picorv32a/runs/ date\_time/results$

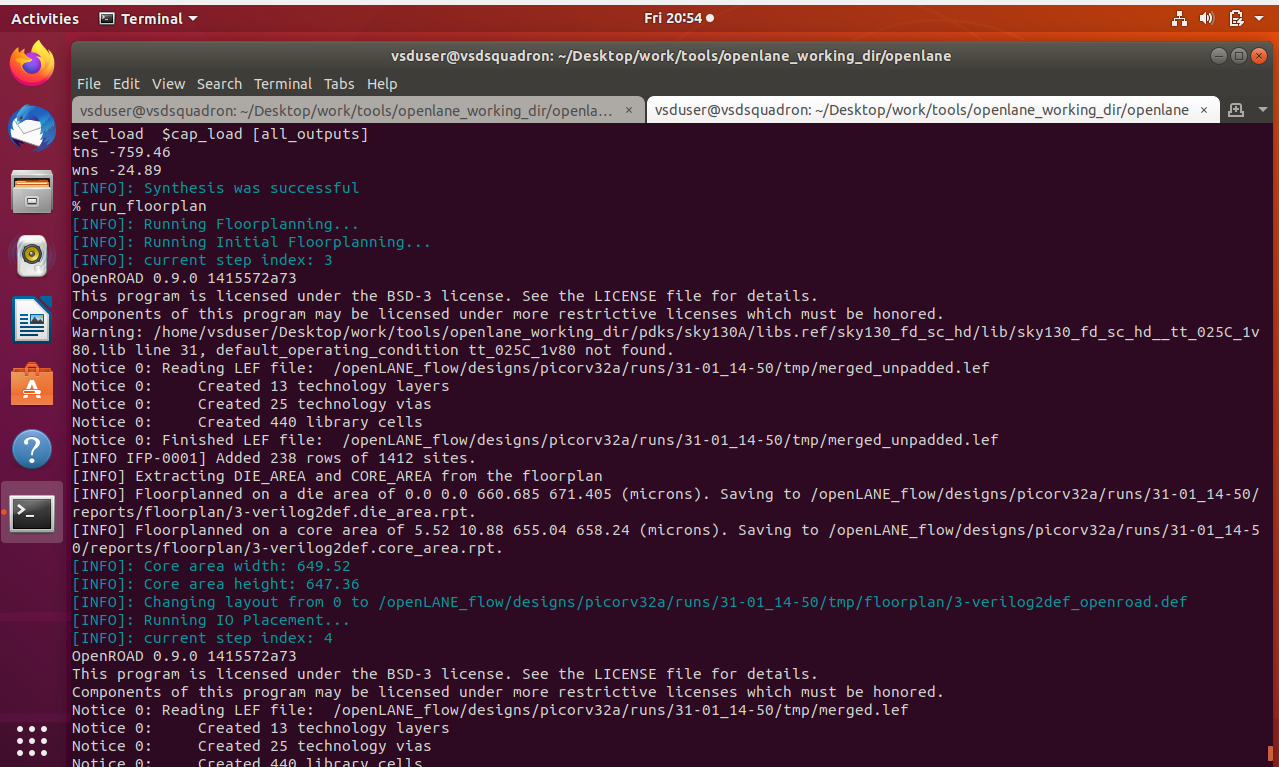


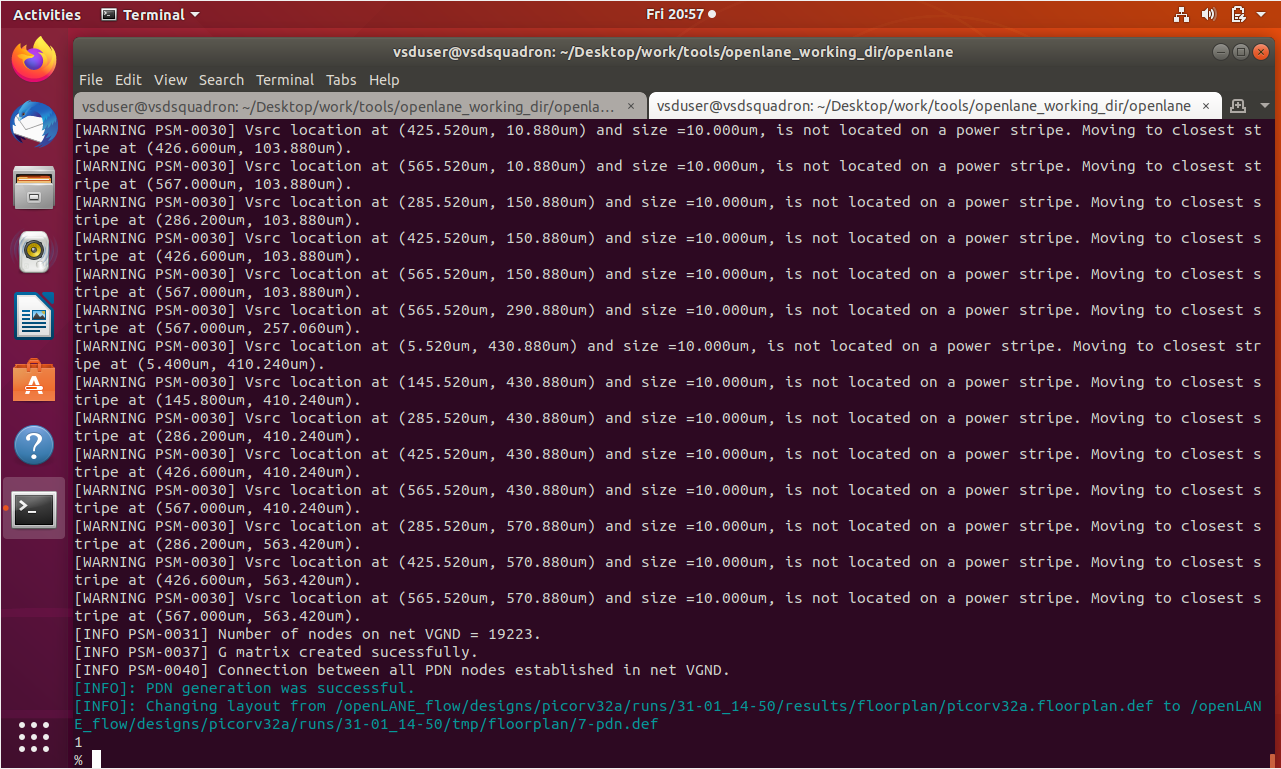




*4. FloorPlanning*

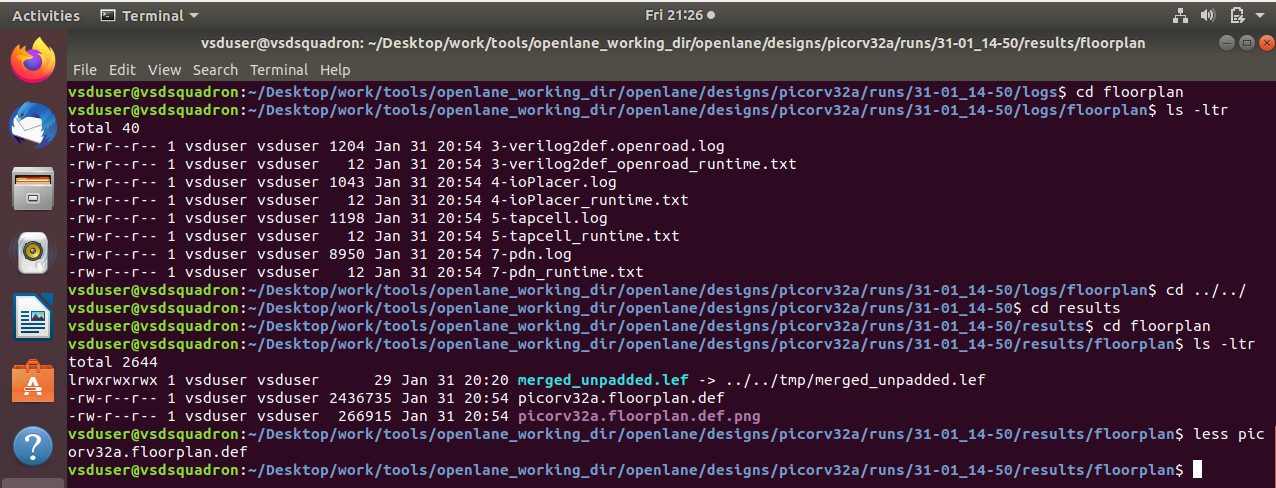
% run\_floorplan

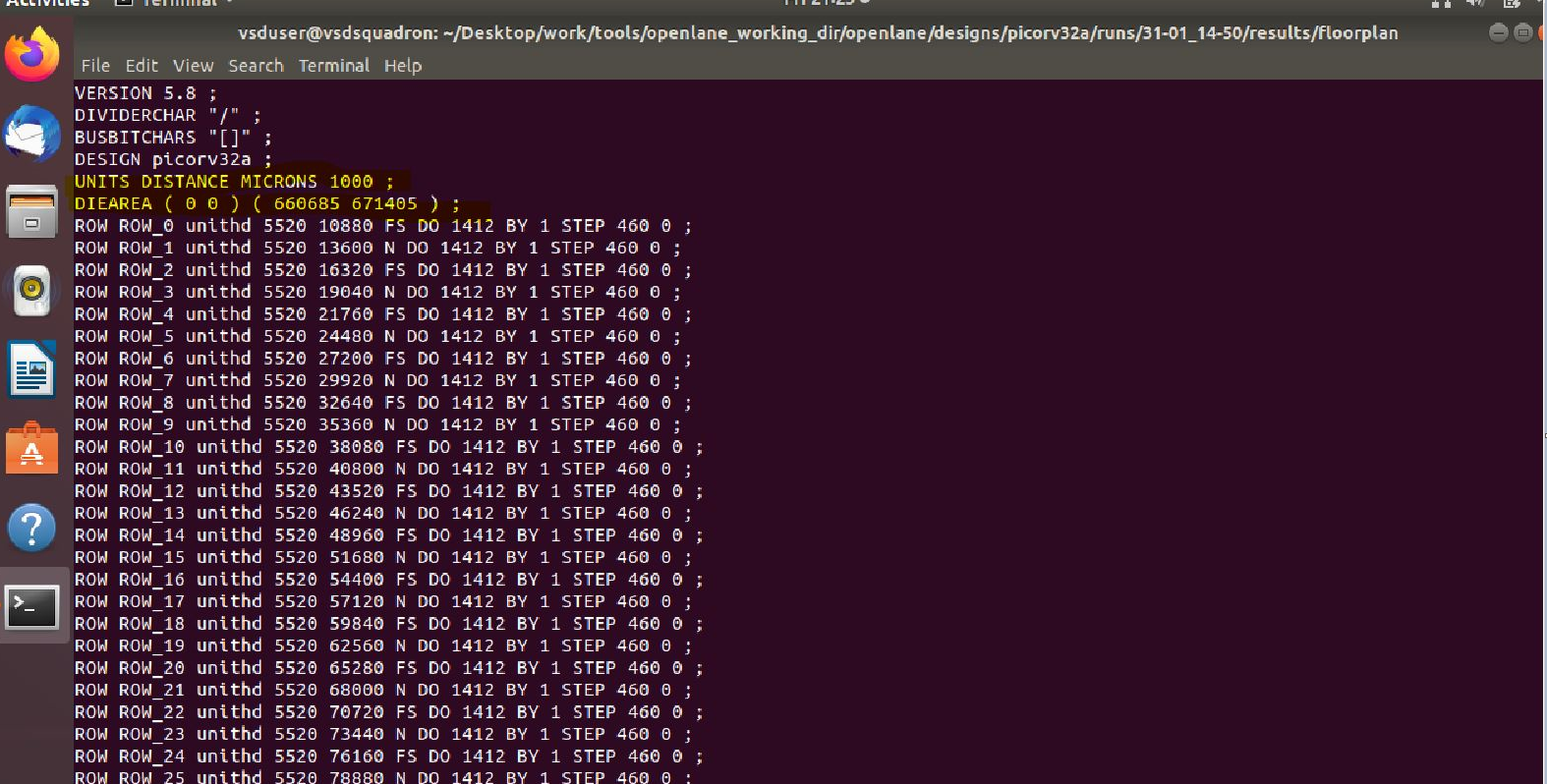




Finding Die Area in Micron

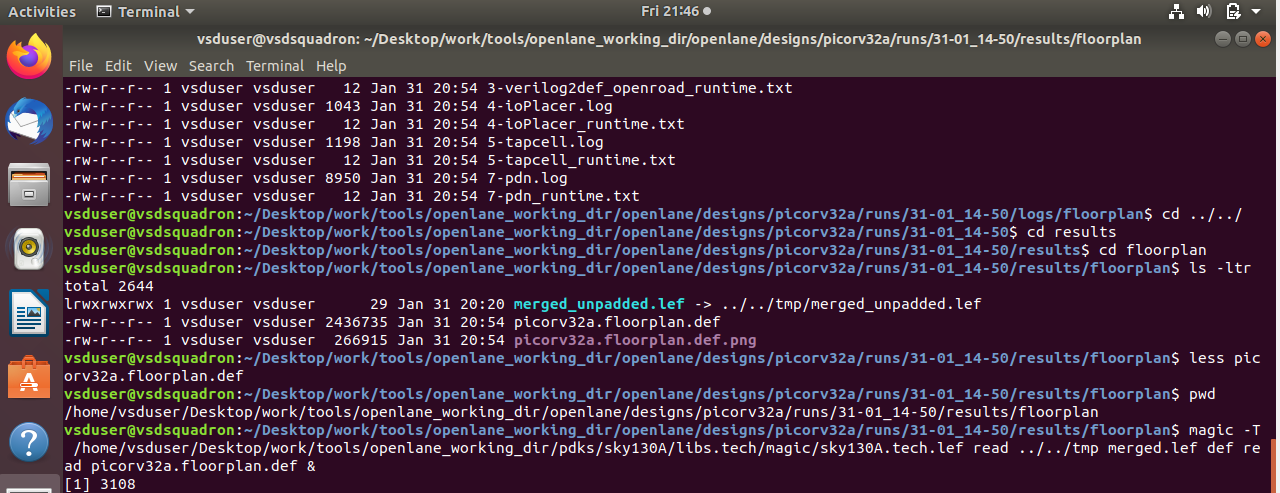
* Desktop/work/tools/openlane\_working\_dir/openlane/designs/picorv32a/runs/ date\_time/ results/floorplan$ less picorv32a.floorplan.def

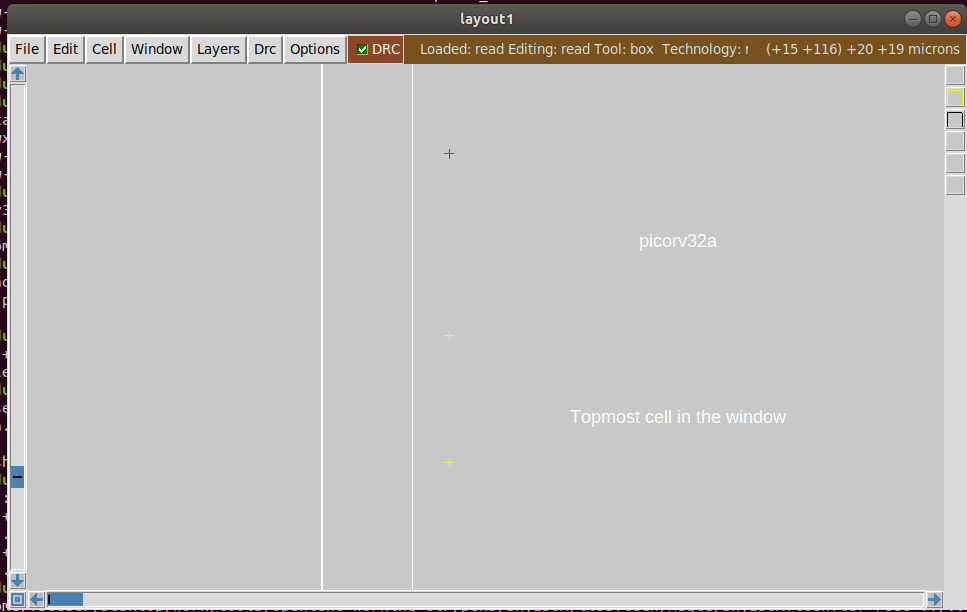




Open floorplan in Magic

* Desktop/work/tools/openlane\_working\_dir/openlane/designs/picorv32a/runs/ date\_time/ results/floorplan$ magic –T /home/vsduser/Desktop/work/tools/openlane\_working\_dir/pdks/sky130A/libs.tech/ magic/ sky130A.tech.lef read ../../tmp/merged.lef def read picorv32a.floorplan.def &





Placement

* Desktop/work/tools/openlane\_working\_dir/openlane/designs/picorv32a/runs/ date\_time/ results/floorplan$ cd ../placement/
* Desktop/work/tools/openlane\_working\_dir/openlane/designs/picorv32a/runs/ date\_time/ results/ placement$ magic –T /home/vsduser/Desktop/work/tools/openlane\_working\_dir/pdks/sky130A/libs.tech/ magic/ sky130A.tech.lef read ../../tmp/merged.lef def read picorv32a.placement.def &