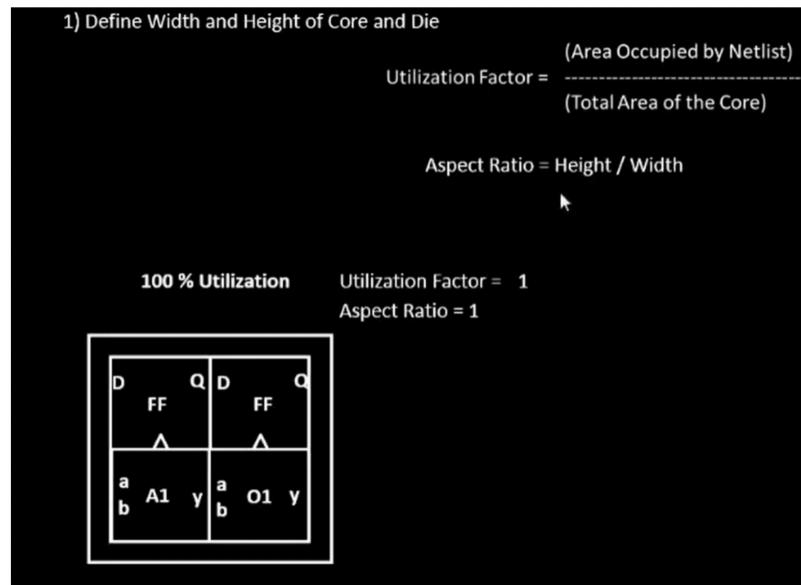


Day 2

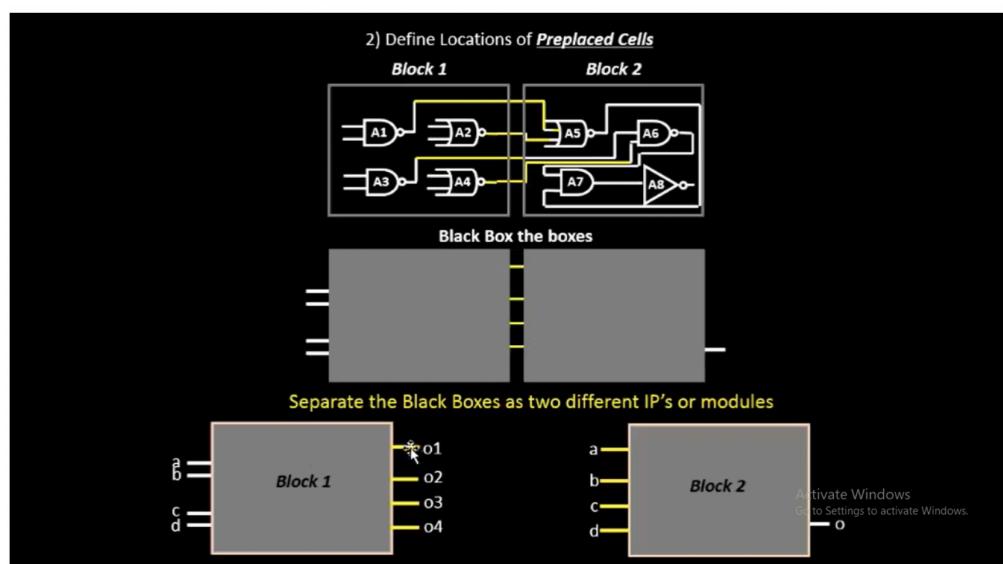
Utilization factor and aspect Ratio

Utilization factor = the area occupied by the netlist / total area of the core
Aspect Ratio = Height / width



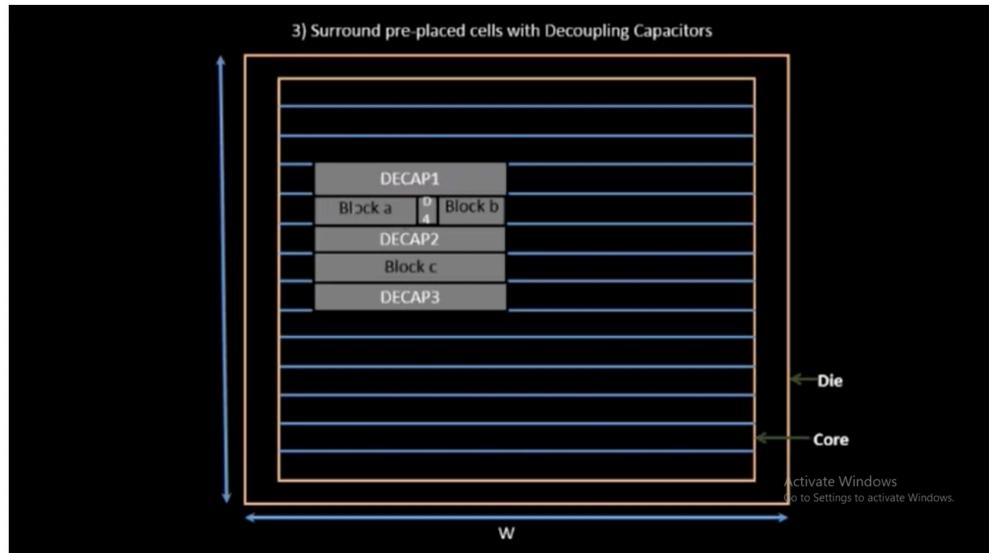
Preplaced Cells

The combinational logic can be separated into separate blocks which can operate as individual units. Advantage of doing this is that we can reuse them multiple times after implementing once only.



Decoupling Capacitors

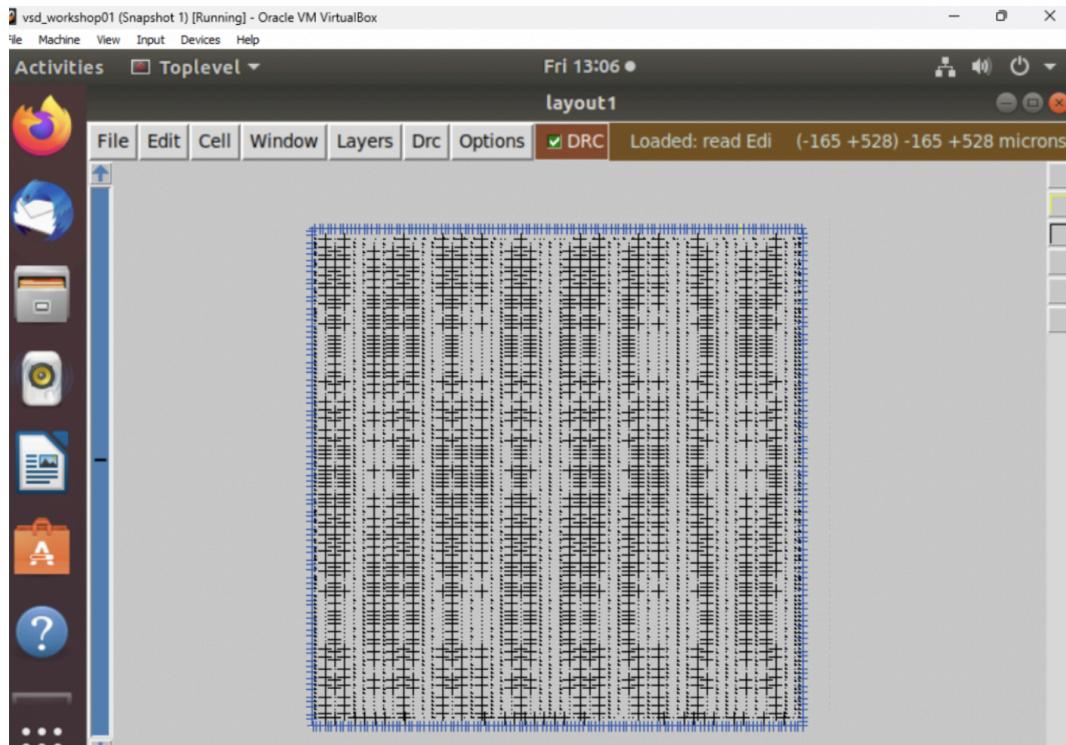
Decoupling capacitors are used in parallel with the circuit to provide current in order to deal with the problem of voltage dissipation from drawing current directly through the power supply line.



Day 2 Lab:

1. run_floorplan (with default settings)

```
vsd_workshop01 (Snapshot 1) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Activities Terminal Fri 13:08 •
vsduser@vsdsquadron: ~/Desktop/work/tools/openlane_working_dir/openlane/designs/picorv32a/runs/16-08_07-25/results$ cd floorplan
vsduser@vsdsquadron:~/Desktop/work/tools/openlane_working_dir/openlane/designs/picorv32a/runs/16-08_07-25/results/floorplan$ magic -T /Desktop/work/tools/openlane_working_dir/pdkss/sky130A/libs.tech lef read ../../tmp/merged.lef def read picorv32a.floorplan.def &
[1] 10749
vsduser@vsdsquadron:~/Desktop/work/tools/openlane_working_dir/openlane/designs/picorv32a/runs/16-08_07-25/results/floorplan$ date
Fri Aug 16 13:07:59 IST 2024
[1]+ Done magic -T /Desktop/work/tools/openlane_working_dir/pdkss/sky130A/libs.tech lef read ../../tmp/merged.lef def read picorv32a.floorplan.def
vsduser@vsdsquadron:~/Desktop/work/tools/openlane_working_dir/openlane/designs/picorv32a/runs/16-08_07-25/results/floorplan$
```



2. run_placement (with default settings)

A screenshot of a terminal window titled "vsd_workshop01 (Snapshot 1) [Running] - Oracle VM VirtualBox". The terminal shows the user navigating through their workspace and running the "run_placement" command. The terminal output is as follows:

```
vsduser@vsdsquadron: ~/Desktop/work/tools/openlane_working_dir/openlane/designs/picorv32a/runs/16-08_07-25/results/floorplan$ cd ../
vsduser@vsdsquadron: ~/Desktop/work/tools/openlane_working_dir/openlane/designs/picorv32a/runs/16-08_07-25/results$ cd placement
vsduser@vsdsquadron: ~/Desktop/work/tools/openlane_working_dir/openlane/designs/picorv32a/runs/16-08_07-25/results/placement$ ls -ltr
total 3892
lrwxrwxrwx 1 vsduser vsduser    29 Aug 16 12:55 merged_unpadded.lef -> ../../tmp/merged_unpadded.lef
-rw-r--r-- 1 vsduser vsduser 3164924 Aug 16 12:56 picorv32a.placement.def
-rw-r--r-- 1 vsduser vsduser   816328 Aug 16 12:57 picorv32a.placement.def.png
vsduser@vsdsquadron: ~/Desktop/work/tools/openlane_working_dir/openlane/designs/picorv32a/runs/16-08_07-25/results/placement$ magic -T /Desktop/work/tools/openlane_working_dir/pdk/sky130A/libs.tech lef read ../../tmp/merged.lef def read picorv32a.placement.def &
[1] 10762
vsduser@vsdsquadron: ~/Desktop/work/tools/openlane_working_dir/openlane/designs/picorv32a/runs/16-08_07-25/results/placement$
```

The terminal window has a dark background and light-colored text. It includes a docked panel on the left with icons for various applications like a browser, file manager, and terminal.

