***ADVANCED PHYSICAL DESIGN USING OPENLANE/SKY130***

Here is the complete report of the workshop using Google-SkyWater within the OpenLANE.

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1. SKY130DAY2:-Good floorplan vs bad floorplan and introduction to library cells

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1. SKY130 DAY4:-Pre layout Timing Analysis and importance of good clock tree

* Timing modeling using delay tables
* Timing Analysis with ideal clocks using Open STA
* Clock tree synthesis Triton CTS and signal integrity
* Timing analysis with Real clocks using Open STA

1. SKY130 DAY5:-Final Steps for RTL2GDS using TritonRoute and OpenSTA

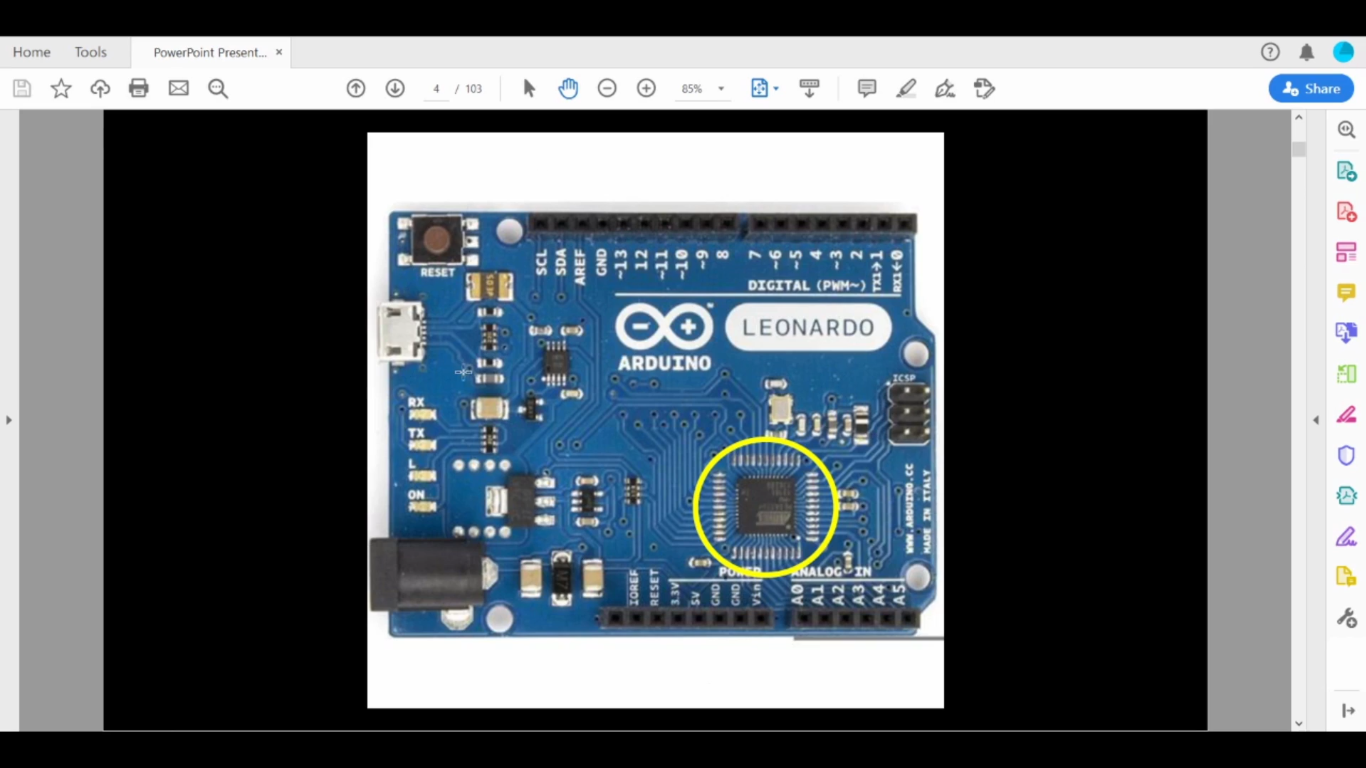
* Routing and design check(DRC)
* Power Distribution network and routing
* Triton Route features

**1.SKY130 DAY1:-**

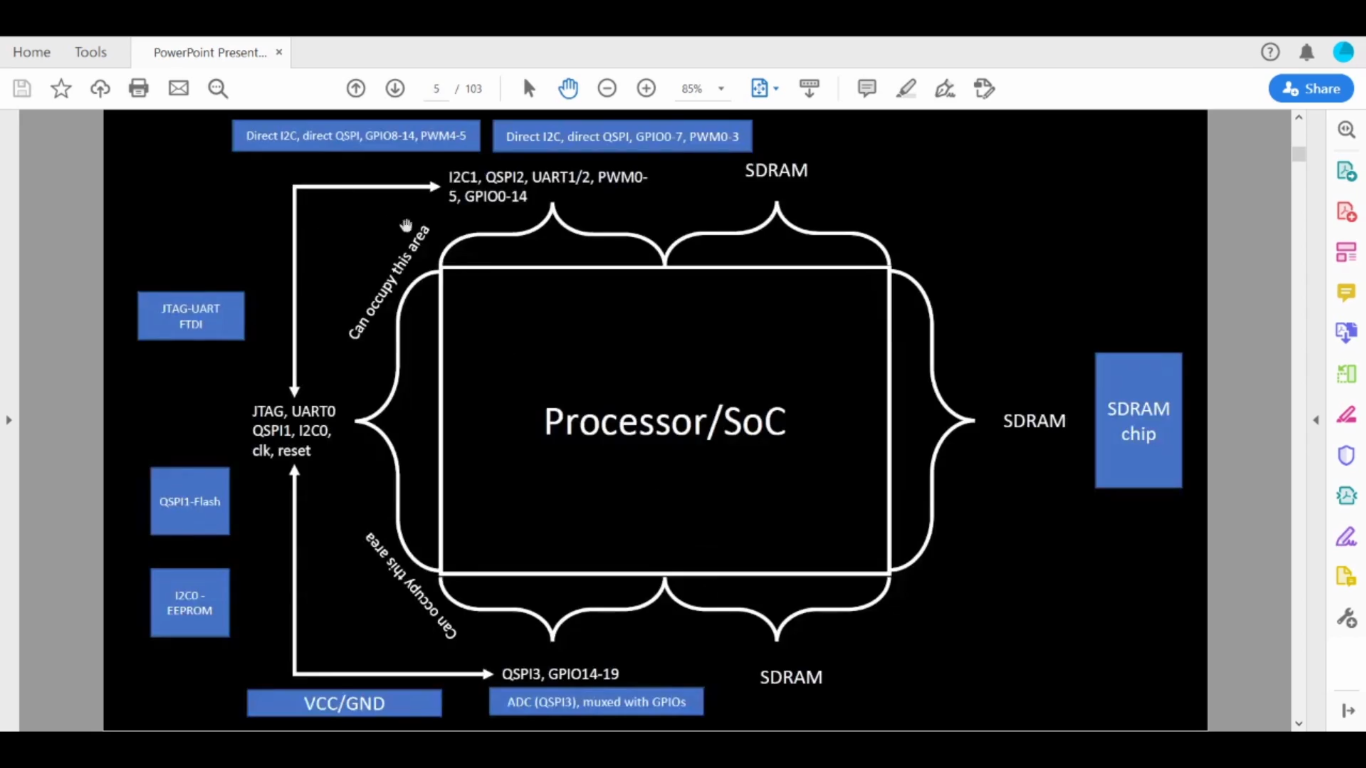
HOW TO TALK TO COMPUTERS:-

*INTRO TO QFN-48 ,PACKAGE ,CHIPS ,ETC;-*

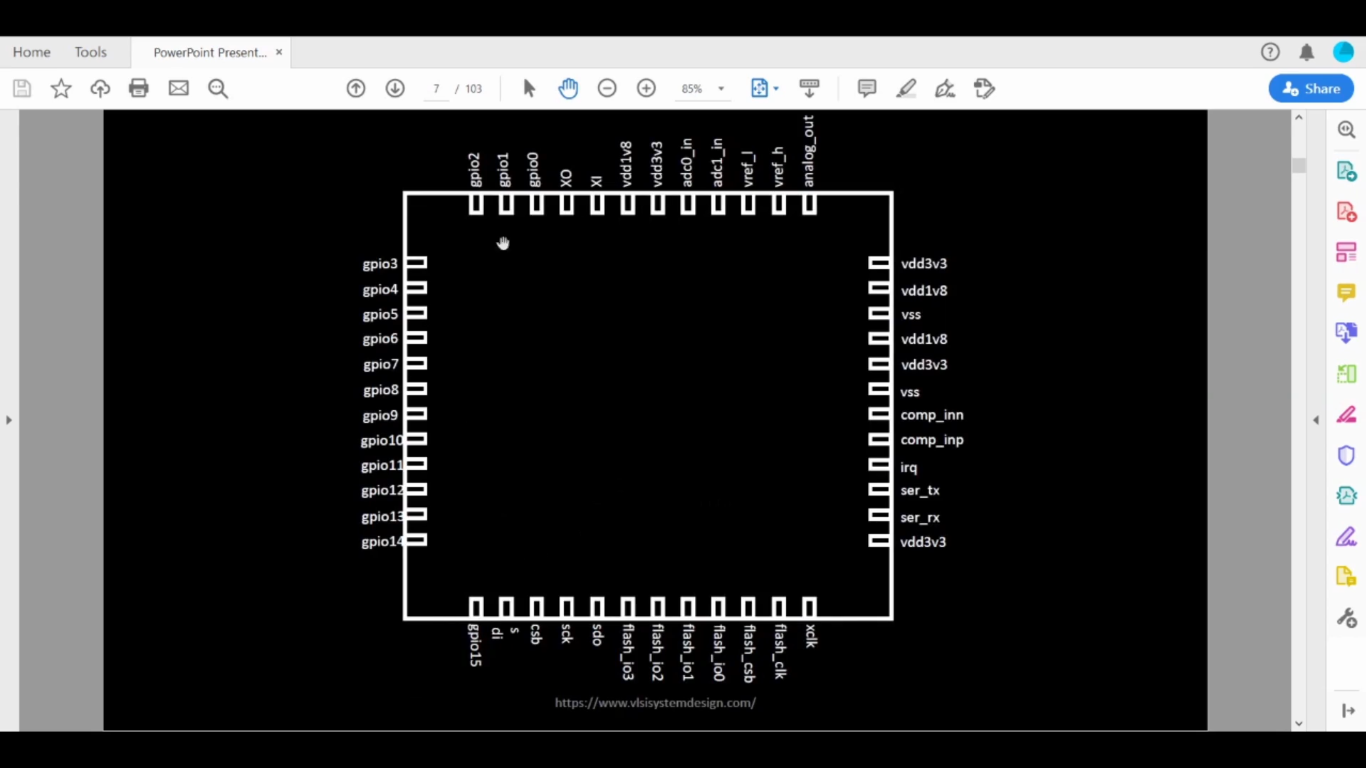
It is an extensively used circuit board that is ARDUINO. Which can be seen in the figure below

It is a processor i.e system on Chip. The main part in chip rounded with yellow colour

The yellow region can been seen through some diagram known as BLOCK DIAGRAM show in below

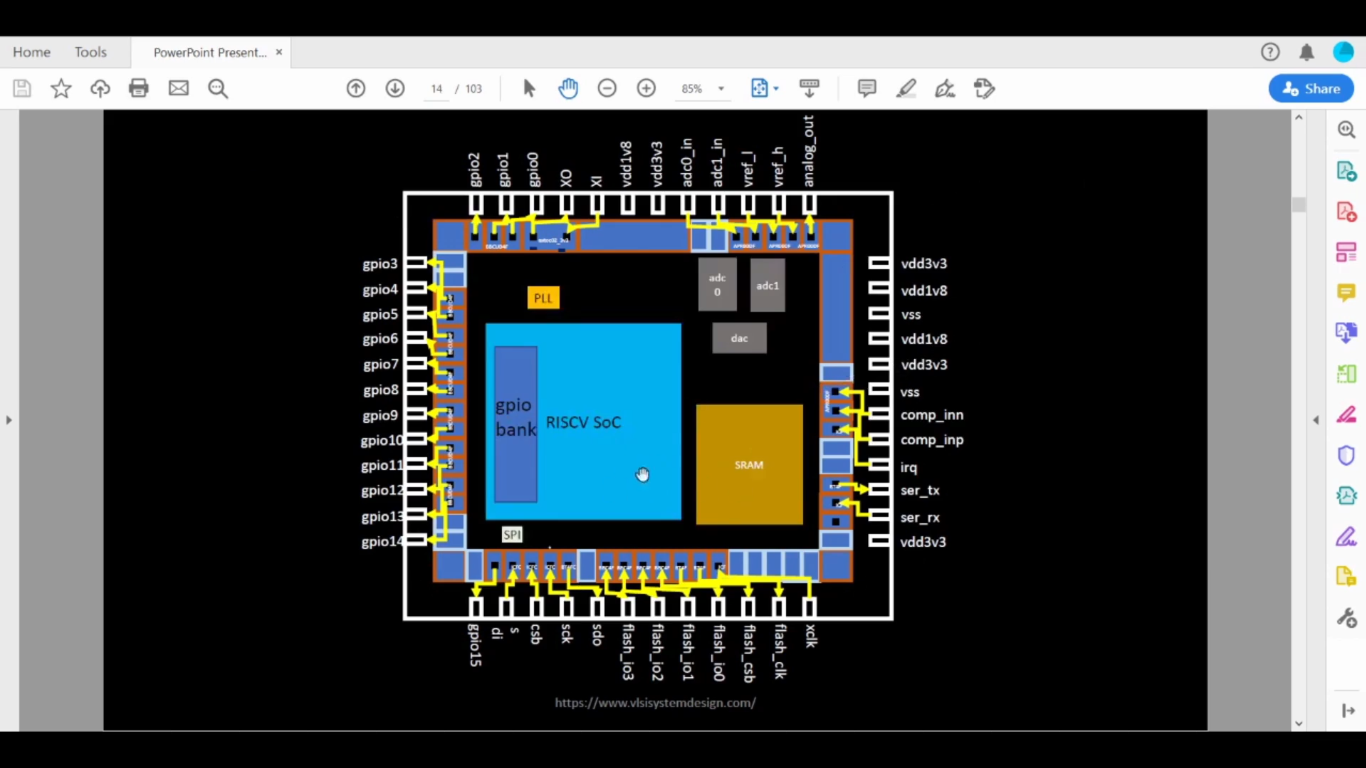
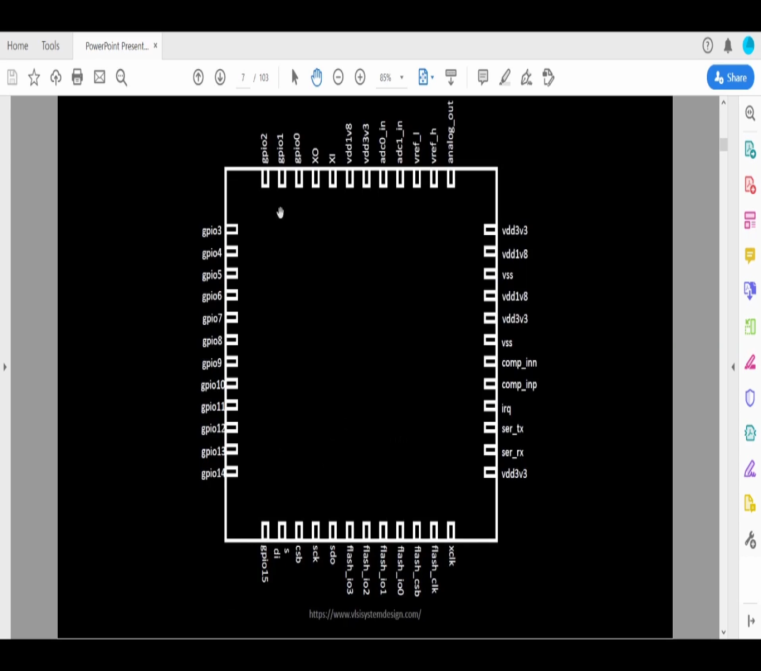


From the picture we can some big boxes which are known as SoC . From the layman’s terms it is mainly called as CHIP. Termed as PACKAGE, which is mainly used arduino board

 PACKAGES can be represented mainly from the above figure:-

As observed chip is an inside package which is connected mainly to various PINS or may be also known inputs/outputs.

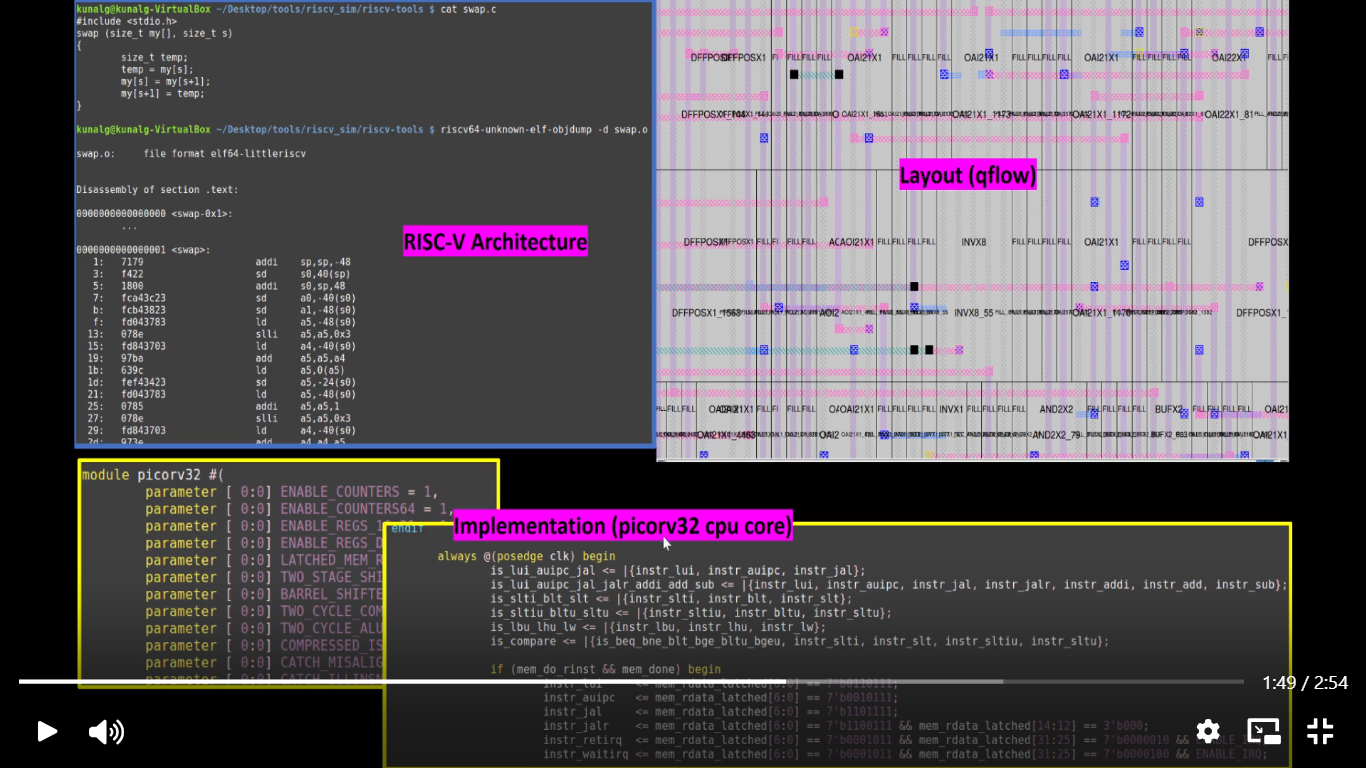
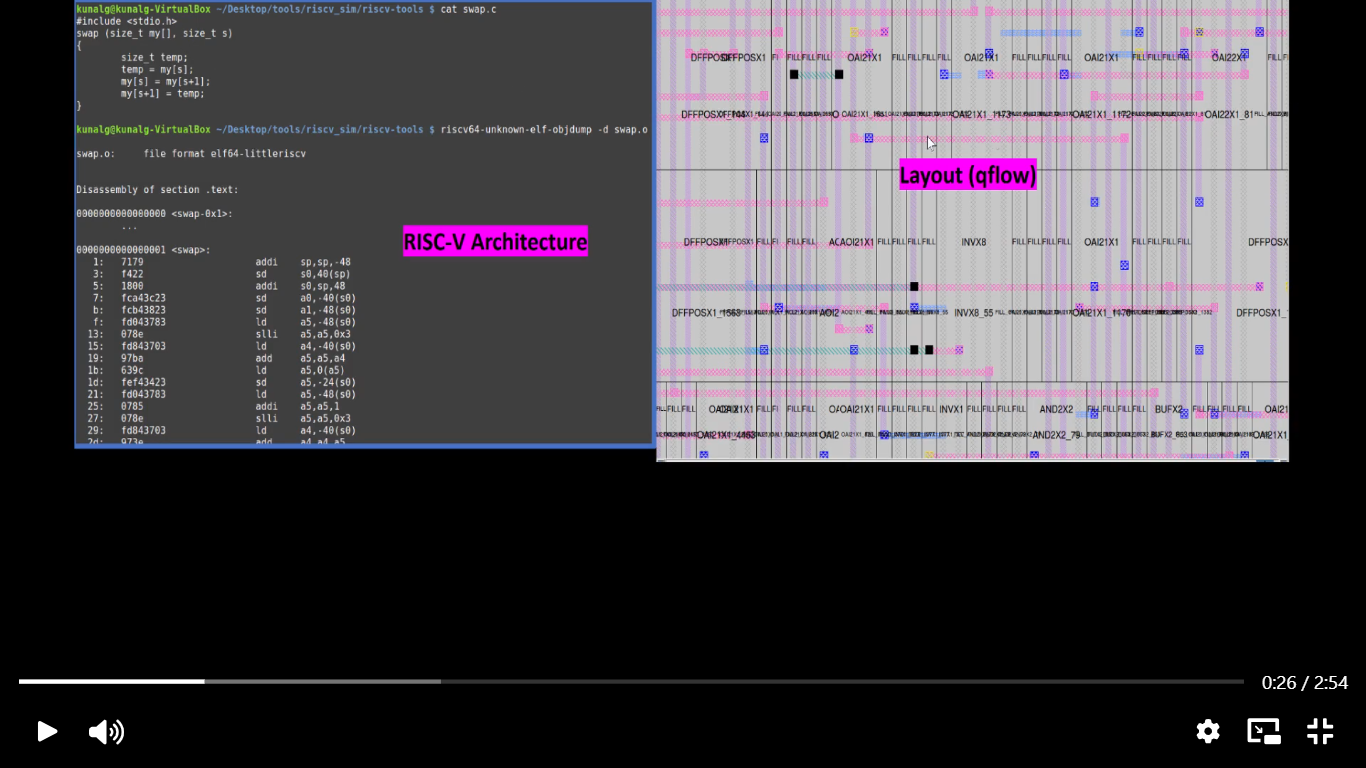
A chip has some various existing components as following:-

* PADS:-They are connecters between circuit and chips
* CORE:-This is the digital logic with some gates in that such as AND, NOR .
* DIE:- It is a part of semiconductor wafer that can be used in devices.

This is schematics of RISC with some various components in that such as FOUNDARY IPs, MACROs.

*INTRODUCTION TO RISC V:-*

The full form of RISC V is Instruction set Architecture which is the language in computer. If C program must be runned than this RISC V is complied.

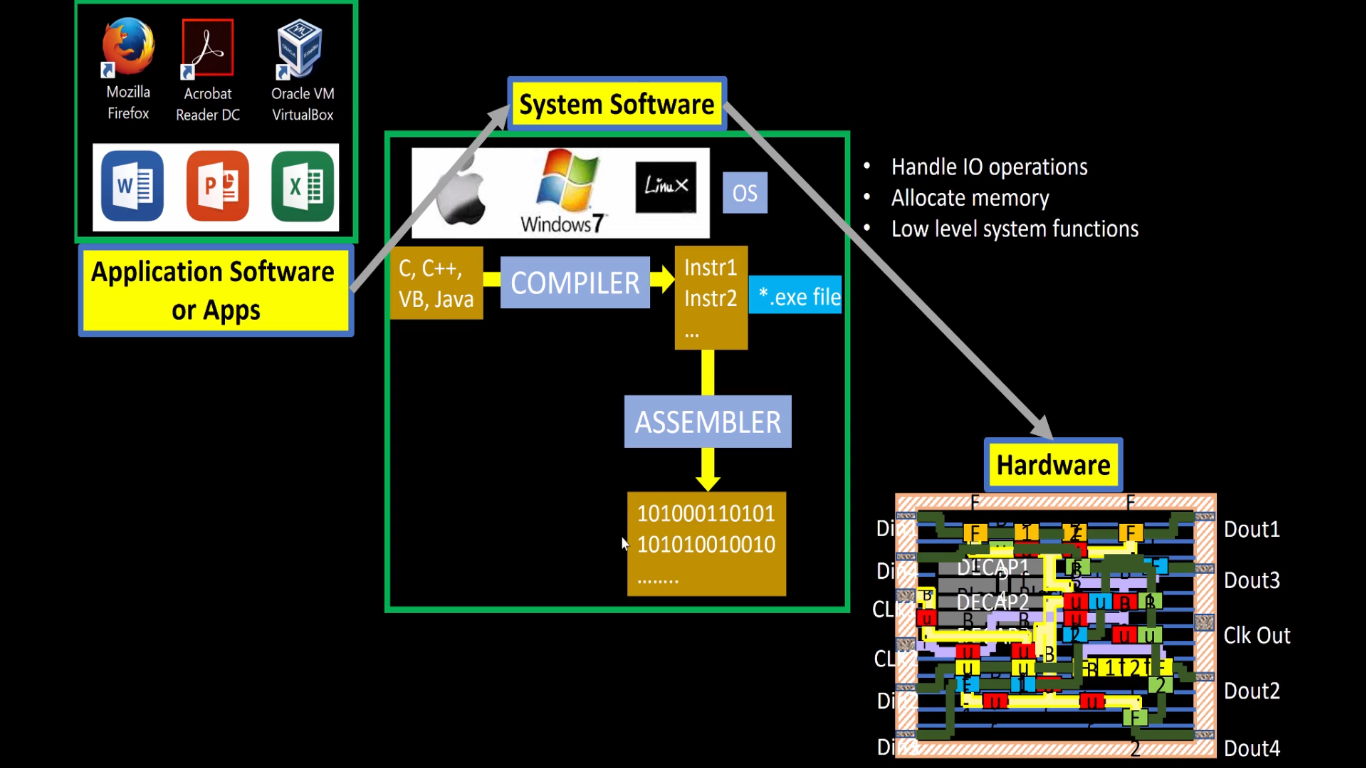


*FROM SOFTWARE APPLICATIONS TO HARDWARE:-*

*It is also known as APPS. They basically run on hardware such as laptops, phones, etc.*

*This is by system software that is majorly:-*

* *Operating system*
* *Compilers*
* *Assemblers*

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