

Fusion 360

Fusion 360 is a software that lets you design a technical drawing or a 3D object. Also it is known to be a good starting software for new engineers and easy to learn. Lets learn about some basic functions of Fusion 360.

Sketch

Sketch is a tool that allows you to draw 2D shapes on a flat faces. Before making 3D objects you must draw a faces of it.

The most important rule in sketch is making your drawing *fully defined*. defined means you provide the location of a point according to origin point of your sketch. This makes the lines you draw not moveable with your mouse to move it you must change the distance of line from origin point. You may wonder what is the benefit of making sketch fully defined. One great engineer said that “Without a fully defined sketch. Your design will be ruined in one movement of your mouse”. As the engineer said if your sketch is not fully defined and you are working on a complicated design you can accidentally ruin your sketch and this will cause you to start from zero to your design. Also some functions in Fusion 360 needs a fully defined sketch so you may not be able to use that functions makes designing your object easier.

Apart from fully defining your sketch there is no restrictions about what you can draw also tools in sketch help you to draw better.

Extrude

Extrude function gives depth to your sketches that way you can start 3D modelling also you can cut a 3D object with the sketch you draw on a 3D object

Components

In Fusion 360 after you extrude a sketch it is called body. Giving shape to body is easy but you cannot apply mechanical principles or connect two bodies to make them move in a specific way. To be able to do that you need to make that object component after you gave its final shape. After converting object to component it will be hard to give it a shape so you must finish your body's shape before making component. Converting body to component allows you to make more complicated designs that need lots of parts such as car engine or a plane.

Joints

Joint function can be used after body is converted to the component This function allows you to connect your components to move in a relation to each other.