Radiators are used for cooling internal combustion engines, mainly in automobiles but also in piston-engined aircraft, locomotives, motorcycles, stationary generating plants and other places where such engines are used. To cool down the engine, a coolant is passed through the engine block, where it absorbs heat from the engine. The hot coolant is then fed into the inlet tank of the radiator (located either on the top of the radiator, or along one side), from which it is distributed across the radiator core through tubes to another tank on the opposite end of the radiator. As the coolant passes through the radiator tubes on its way to the opposite tank, it transfers much of its heat to the tubes which, in turn, transfer the heat to the [fins](https://en.wikipedia.org/wiki/Fin_%28extended_surface%29) that are lodged between each row of tubes. The fins then release the heat to the ambient air. Fins are used to greatly increase the contact surface of the tubes to the air, thus increasing the exchange efficiency. The cooled coolant is fed back to the engine, and the cycle repeats. Normally, the radiator does not reduce the temperature of the coolant back to ambient air temperature, but it is still sufficiently cooled to keep the engine from overheating.

The main objective of the project is to design a working model of radiator and simulates the thermal and flow simulations of radiator with proper material. The cad model is generated in solid works 2014. And simulation carried out in solid works simulation.