An ‘instance’ of the driverless code consists of several components. With the Map class at its core, an instance is (normally, though exceptions are allowed) a class object with several parent classes (Map being one of them). A simple example:

class pygamesimLocal(Map, ML.mapLoader, CC.coneConnecter, PF.pathFinder, PP.pathPlanner, DD.pygameDrawer):

    def \_\_init\_\_(self, window, drawSize=(700,350), drawOffset=(0,0), carCamOrient=0, sizeScale=120, startWithCarCam=False, invertYaxis=True):

        Map.\_\_init\_\_(self) #init map class

        ML.mapLoader.\_\_init\_\_(self)

        #self.clockSet(simClock) #an altered clock, only for simulations where the speed is faster/slower than normal  #DEPRICATED

        #self.clock = simClock #must be a function with no required parameters!

        self.car = SC.simCar(self.clock) #simCar has Map.Car as a parent class, so all regular Car stuff will still work

        CC.coneConnecter.\_\_init\_\_(self)

        PF.pathFinder.\_\_init\_\_(self)

        PP.pathPlanner.\_\_init\_\_(self)

        DD.pygameDrawer.\_\_init\_\_(self, self, window, drawSize, drawOffset, carCamOrient, sizeScale, startWithCarCam, invertYaxis)

        #tell the drawing class which parts are present

        self.coneConnecterPresent = True

        self.pathFinderPresent = True

        self.pathPlanningPresent = True

        self.SLAMPresent = False

In the example above, the instance has map loader, cone connecter, path finder, path planner and pygame drawer components.

See generalSim.py, simpleSim.py and headless.py on the [github](https://github.com/HanzeRacingDivision/Car_Simulation/tree/thijs-update/pygame%20map%20visualization) for some examples of instances.