**SVM**

Parte 1

clf=SVC(class\_weight='balanced',random\_state=12)

parameters={'C':[0.01,0.1,0.5,10,50,100],

            'kernel':['poly','rbf'],

            'gamma':['scale','auto']}

parte 2

clf=SVC(class\_weight='balanced',random\_state=12)

parameters={'C':[0.3,0.8,5,15,80,200],

            'kernel':['poly','rbf'],

            'gamma':['scale']}

**MLP**

**Parte 1**

parameters={'hidden\_layer\_sizes':[50,80,100,200],# comence desde 5 pero habian errores

            'activation':['tanh','relu'],

            'learning\_rate\_init':[0.01,0.001],

            'batch\_size':[200,400,600]

              }

**parte 2:**

parameters={'hidden\_layer\_sizes':[40,60,80,100],# comence desde 5 pero habian errores

            'activation':['tanh','relu'],

            'learning\_rate\_init':[0.01],

            'batch\_size':[200,400]

              }

**RF**

**Parte 1**

parameters={'n\_estimators':[5,10,20,80,100,200],

            'criterion':['gini'],

            'min\_samples\_split':[3,10,20,30,50,80],

            'max\_features':['auto']}

**Parte2**

parameters={'n\_estimators':[20,80,100],

            'criterion':['gini'],

            'min\_samples\_split':[60,70,100],

            'max\_features':['auto']}

**LR**

**Parte 1**

parameters={'C':[0.1,1,10,100,200,500,1000,5000],

            'solver':['newton-cg','lbfgs']}

**Parte 2**

parameters={'C':[120,150,250,300],

            'solver':['newton-cg','lbfgs']}

**KNN**

**Parte 1**

parameters={'n\_neighbors':[2,5,10,20,50],

            'weights':['uniform', 'distance'],

            'algorithm':['ball\_tree','kd\_tree'],

            'leaf\_size':[30,90]}

**Parte 2**