PROJECT 2 EXPECTED OUTPUT

Note: The values below have been generated on a different dataset than the one provided to you for Project-2. Only refer to the format.

Q1 AB)

Generate plots for k = 1 to k =10

One sample plot is provided for reference. Similarly, generate one plot for each k i.e. 10 total plots. Each plot can have lines for different values of d shown in different colors.

(Plotting only for 1 k value is also fine as the code remains the same. Generating for all 10 will help you visualize better. It is your choice. Points will not be deducted if you plot for 1 or 10. But you must plot at least 1.)

Q1C)

Q1_C --------------------

For k = 1

For d = 0 MSE = 17.86810053283815

For d = 1 MSE = 19.697310743673057

For d = 2 MSE = 15.14739036427633

For d = 3 MSE = 15.144519698331735

For d = 4 MSE = 8.002665947323571

For d = 5 MSE = 7.904914481438219

For d = 6 MSE = 5.8574624969502205

For k = 2

For d = 0 MSE = 17.86810053283815

For d = 1 MSE = 13.547769371145046

For d = 2 MSE = 7.958793031869822

For d = 3 MSE = 6.099077688176748

For d = 4 MSE = 6.344602841083909

For d = 5 MSE = 6.20929298385324

For d = 6 MSE = 6.642987651673794

For k = 3

For d = 0 MSE = 17.86810053283815

For d = 1 MSE = 18.323314507702655

For d = 2 MSE = 16.41151430533369

For d = 3 MSE = 17.958722640693633

For d = 4 MSE = 17.96661069717377

For d = 5 MSE = 18.115461600010168

For d = 6 MSE = 16.956091414354354

For k = 4

For d = 0 MSE = 17.86810053283815

For d = 1 MSE = 14.685194483066747

For d = 2 MSE = 14.677889305390115

For d = 3 MSE = 14.982131138963712

For d = 4 MSE = 14.749201847126429

For d = 5 MSE = 14.488342482326852

For d = 6 MSE = 14.703632249841032

For k = 5

For d = 0 MSE = 17.86810053283815

For d = 1 MSE = 17.700446176499174

For d = 2 MSE = 17.678523021817803

For d = 3 MSE = 17.464482685518394

For d = 4 MSE = 17.470834032359516

For d = 5 MSE = 17.62965886522148

For d = 6 MSE = 18.33245219291728

For k = 6

For d = 0 MSE = 17.86810053283815

For d = 1 MSE = 15.997693892144332

For d = 2 MSE = 15.855930044732293

For d = 3 MSE = 14.669071305289474

For d = 4 MSE = 15.306182021887333

For d = 5 MSE = 16.282804305448185

For d = 6 MSE = 18.08638293565198

For k = 7

For d = 0 MSE = 17.86810053283815

For d = 1 MSE = 19.715641721966527

For d = 2 MSE = 19.680022136554808

For d = 3 MSE = 19.15838391705036

For d = 4 MSE = 20.426405469400503

For d = 5 MSE = 21.167100970931024

For d = 6 MSE = 20.33120983528822

For k = 8

For d = 0 MSE = 17.86810053283815

For d = 1 MSE = 17.82900757233436

For d = 2 MSE = 17.70852935531078

For d = 3 MSE = 18.173562924364127

For d = 4 MSE = 19.681736965923676

For d = 5 MSE = 19.977674773016677

For d = 6 MSE = 19.941591062092904

For k = 9

For d = 0 MSE = 17.86810053283815

For d = 1 MSE = 19.44454736472695

For d = 2 MSE = 18.574909963068055

For d = 3 MSE = 18.069710746078545

For d = 4 MSE = 19.898033460945655

For d = 5 MSE = 19.36850596217747

For d = 6 MSE = 18.63756464029345

For k = 10

For d = 0 MSE = 17.86810053283815

For d = 1 MSE = 17.75945432898151

For d = 2 MSE = 17.7513092562007

For d = 3 MSE = 18.49164165209813

For d = 4 MSE = 18.86304042258473

For d = 5 MSE = 18.20576165571247

For d = 6 MSE = 18.124441790971545

Q1D)

(Generate plots)

For k = 1

For d = 0 MSE = 19.752781656764395

For d = 1 MSE = 17.478215873036966

For d = 2 MSE = 14.809355972005282

For d = 3 MSE = 16.493122114309703

For d = 4 MSE = 18.313210175450344

For d = 5 MSE = 17.923547258551487

For d = 6 MSE = 15.828236334779874

For k = 2

For d = 0 MSE = 19.752781656764395

For d = 1 MSE = 16.505448997070108

For d = 2 MSE = 13.031993686474166

For d = 3 MSE = 10.348972233014347

For d = 4 MSE = 9.464818096301078

For d = 5 MSE = 8.825787526069476

For d = 6 MSE = 16.783750898303946

For k = 3

For d = 0 MSE = 19.752781656764395

For d = 1 MSE = 20.160143074894673

For d = 2 MSE = 22.603234208106294

For d = 3 MSE = 22.5427651602583

For d = 4 MSE = 39.18296300875261

For d = 5 MSE = 36.01093396956533

For d = 6 MSE = 34.00290398119502

For k = 4

For d = 0 MSE = 19.752781656764395

For d = 1 MSE = 17.748127617740742

For d = 2 MSE = 19.305486477559466

For d = 3 MSE = 26.27522679877301

For d = 4 MSE = 26.52879380366838

For d = 5 MSE = 28.27387503653706

For d = 6 MSE = 27.414323908429928

For k = 5

For d = 0 MSE = 19.752781656764395

For d = 1 MSE = 19.780513588388906

For d = 2 MSE = 24.647895560901

For d = 3 MSE = 24.344009719443292

For d = 4 MSE = 28.849705807712716

For d = 5 MSE = 28.314534209852457

For d = 6 MSE = 26.654301644908475

For k = 6

For d = 0 MSE = 19.752781656764395

For d = 1 MSE = 21.00276424896901

For d = 2 MSE = 34.30249366510423

For d = 3 MSE = 33.658784127080736

For d = 4 MSE = 32.19404355405966

For d = 5 MSE = 40.001885436347536

For d = 6 MSE = 38.14742819777836

For k = 7

For d = 0 MSE = 19.752781656764395

For d = 1 MSE = 20.506421999529877

For d = 2 MSE = 20.411729351227866

For d = 3 MSE = 21.660324759673248

For d = 4 MSE = 20.601590858513696

For d = 5 MSE = 21.301189352749592

For d = 6 MSE = 23.755818835612537

For k = 8

For d = 0 MSE = 19.752781656764395

For d = 1 MSE = 21.1014296314873

For d = 2 MSE = 21.09012925237533

For d = 3 MSE = 22.22148059819984

For d = 4 MSE = 21.075994853647828

For d = 5 MSE = 21.87082472022347

For d = 6 MSE = 22.833791039400577

For k = 9

For d = 0 MSE = 19.752781656764395

For d = 1 MSE = 21.84053651373909

For d = 2 MSE = 25.392016802986614

For d = 3 MSE = 25.319362544875695

For d = 4 MSE = 29.365984660920116

For d = 5 MSE = 31.588628595448746

For d = 6 MSE = 38.10279758426988

For k = 10

For d = 0 MSE = 19.752781656764395

For d = 1 MSE = 24.68631722295138

For d = 2 MSE = 27.7340304759868

For d = 3 MSE = 25.32107131908084

For d = 4 MSE = 25.279852349916556

For d = 5 MSE = 25.12453075942697

For d = 6 MSE = 25.058760696526257

Q2AB)

Plot 1 graph (sample provided in graph folder)

Q2C)

data size = 128, MSE = 10.035893579882316

Q2D)

(Generate 1 plot – sample provided in graph folder)

data size = 20, MSE = 12.442776944944288

Q3AB)

Generate 3D plot (samples provided in graph folder)

Itr = 0 accuracy = 60.666666666666664

Itr = 1 accuracy = 58.33333333333333

Itr = 2 accuracy = 58.33333333333333

Itr = 3 accuracy = 58.33333333333333

Itr = 4 accuracy = 60.0

Itr = 5 accuracy = 55.0

Itr = 6 accuracy = 58.33333333333333

Itr = 7 accuracy = 58.33333333333333

Itr = 8 accuracy = 58.33333333333333

Itr = 9 accuracy = 56.666666666666664

Itr = 10 accuracy = 60.833333333333336

Itr = 11 accuracy = 60.0

Itr = 12 accuracy = 58.33333333333333

Itr = 13 accuracy = 60.0

Itr = 14 accuracy = 56.666666666666664

Itr = 15 accuracy = 60.833333333333336

Itr = 16 accuracy = 60.0

Itr = 17 accuracy = 58.33333333333333

Itr = 18 accuracy = 60.0

Itr = 19 accuracy = 56.666666666666664

Q3C)

Height, Weight, Age

For alpha = 0.01 , iterations = 20

Leave one out Accuracy = 49.16666666666667 %

Q3D)

Height, Weight Only

For alpha = 0.01 , iterations = 20

Leave one out Accuracy = 47.5 %