**Project 3 – Closest Edge Insertion Heuristic**

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1. **Introduction** (What did you do in this project and why?)

1. **Approach** (Describe algorithm you are using for this project)
2. **Results** (How well did the algorithm perform?)
   1. **Data** (Describe the data you used.)
   2. **Results** (Numerical results and any figures or tables.)

{'**path**': [{'y': '2.658162', 'x': '87.951292', 'num': '1'}, {'y': '16.071047', 'x': '72.743919', 'num': '30'}, {'y': '6.183050', 'x': '62.129582', 'num': '15'}, {'y': '1.394696', 'x': '27.466659', 'num': '20'}, {'y': '2.761925', 'x': '20.032350', 'num': '6'}, {'y': '11.899167', 'x': '16.052736', 'num': '25'}, {'y': '20.337535', 'x': '9.961241', 'num': '13'}, {'y': '31.971191', 'x': '18.494217', 'num': '29'}, {'y': '33.808405', 'x': '51.658681', 'num': '10'}, {'y': '32.578509', 'x': '41.059603', 'num': '8'}, {'y': '47.633290', 'x': '20.526749', 'num': '4'}, {'y': '67.238380', 'x': '20.160527', 'num': '26'}, {'y': '81.185339', 'x': '9.006012', 'num': '5'}, {'y': '97.015290', 'x': '18.692587', 'num': '9'}, {'y': '99.725333', 'x': '22.730186', 'num': '27'}, {'y': '98.400830', 'x': '40.730003', 'num': '22'}, {'y': '70.415357', 'x': '28.186895', 'num': '14'}, {'y': '66.682943', 'x': '33.466597', 'num': '2'}, {'y': '49.113437', 'x': '34.156316', 'num': '18'}, {'y': '50.599689', 'x': '37.806330', 'num': '12'}, {'y': '47.541734', 'x': '44.563128', 'num': '11'}, {'y': '42.796106', 'x': '50.376904', 'num': '16'}, {'y': '43.671987', 'x': '71.285134', 'num': '17'}, {'y': '61.076693', 'x': '73.799860', 'num': '23'}, {'y': '88.503677', 'x': '77.196570', 'num': '28'}, {'y': '71.837519', 'x': '85.201575', 'num': '19'}, {'y': '53.807184', 'x': '91.778314', 'num': '3'}, {'y': '44.746239', 'x': '97.985778', 'num': '21'}, {'y': '31.922361', 'x': '77.181310', 'num': '7'}, {'y': '17.029328', 'x': '85.076449', 'num': '24'}, {'y': '2.658162', 'x': '87.951292', 'num': '1'}], '**distance**': 504.7628346387057}

18.4922430515 seconds

{'**path**': [{'y': '2.658162', 'x': '87.951292', 'num': '1'}, {'y': '16.071047', 'x': '72.743919', 'num': '30'}, {'y': '6.183050', 'x': '62.129582', 'num': '15'}, {'y': '15.189873', 'x': '43.790850', 'num': '39'}, {'y': '1.394696', 'x': '27.466659', 'num': '20'}, {'y': '2.761925', 'x': '20.032350', 'num': '6'}, {'y': '11.899167', 'x': '16.052736', 'num': '25'}, {'y': '20.337535', 'x': '9.961241', 'num': '13'}, {'y': '41.981262', 'x': '4.153569', 'num': '31'}, {'y': '40.690329', 'x': '14.145329', 'num': '33'}, {'y': '31.971191', 'x': '18.494217', 'num': '29'}, {'y': '29.957806', 'x': '27.042484', 'num': '38'}, {'y': '31.645570', 'x': '60.375817', 'num': '40'}, {'y': '33.808405', 'x': '51.658681', 'num': '10'}, {'y': '32.578509', 'x': '41.059603', 'num': '8'}, {'y': '47.633290', 'x': '20.526749', 'num': '4'}, {'y': '52.076785', 'x': '22.656941', 'num': '35'}, {'y': '67.238380', 'x': '20.160527', 'num': '26'}, {'y': '81.185339', 'x': '9.006012', 'num': '5'}, {'y': '97.015290', 'x': '18.692587', 'num': '9'}, {'y': '99.725333', 'x': '22.730186', 'num': '27'}, {'y': '98.400830', 'x': '40.730003', 'num': '22'}, {'y': '78.902954', 'x': '51.797386', 'num': '36'}, {'y': '70.415357', 'x': '28.186895', 'num': '14'}, {'y': '66.682943', 'x': '33.466597', 'num': '2'}, {'y': '49.113437', 'x': '34.156316', 'num': '18'}, {'y': '50.599689', 'x': '37.806330', 'num': '12'}, {'y': '47.541734', 'x': '44.563128', 'num': '11'}, {'y': '42.796106', 'x': '50.376904', 'num': '16'}, {'y': '54.852321', 'x': '59.477124', 'num': '37'}, {'y': '43.671987', 'x': '71.285134', 'num': '17'}, {'y': '61.076693', 'x': '73.799860', 'num': '23'}, {'y': '70.360424', 'x': '66.258736', 'num': '34'}, {'y': '88.503677', 'x': '77.196570', 'num': '28'}, {'y': '95.034639', 'x': '79.027680', 'num': '32'}, {'y': '71.837519', 'x': '85.201575', 'num': '19'}, {'y': '53.807184', 'x': '91.778314', 'num': '3'}, {'y': '44.746239', 'x': '97.985778', 'num': '21'}, {'y': '31.922361', 'x': '77.181310', 'num': '7'}, {'y': '17.029328', 'x': '85.076449', 'num': '24'}, {'y': '2.658162', 'x': '87.951292', 'num': '1'}], '**distance**': 603.0734633454522}

26.0532128811 seconds

1. **Discussion** (Talk about the results you got and answer any specific questions mentioned in the assignment.)
2. **References** (If you used any sources in addition to lectures please include them here.)