```
In [1]: import numpy as np
        import pandas as pd
        from sklearn.model_selection import train test split
        from sklearn.neighbors import KNeighborsRegressor
        from sklearn.datasets import make regression
In [2]: X, y = make regression(n samples = 1000, n features=3, n informative = 3, random state = 0)
In [3]: X
Out[3]: array([[ 0.21555305, -1.77638862, -1.63842363],
               [-0.26164545, -0.5854312, -1.27968917],
               [-0.04459939, -0.03890531, 0.72717487],
               [0.56654532, 0.17371185, -0.52886985],
               [0.52983378, -0.27898161, -0.43141434],
               [ 0.24211796, -0.88897136, -1.68121822]])
In [4]: y
Out[4]: array([-2.04705181e+02, -1.42017433e+02, 3.52728273e+01, 2.62561870e+02,
                1.23032458e+02, -2.92241682e+01, 1.54745476e+02, 1.95064338e+01,
                2.32287859e+02, -5.94487671e+01, -7.16200629e+01, 1.36676054e+02,
                7.36847578e+01, 7.65068329e+01, -1.30914140e+02, 1.13378522e+02,
               -5.52133947e+01, -4.48576469e+01, -1.48835564e+02, -9.88928295e+01,
                1.35583292e+02, 1.13406494e+02, -1.20860513e+02, -6.86122042e+01,
               -1.82545334e+02, 1.16988057e+02, -3.87477446e+01, 2.41588501e+02,
               -1.11446103e+02, -5.08304564e+01, -2.55267318e+00, -1.87009434e+02,
                4.17337800e+01, -1.86935881e+02, -5.35779684e+01, 9.79918281e+00,
                3.38360145e+01, 1.09272747e+02, -1.46143136e+00, 1.63410268e+02,
               -7.08519017e+01, -2.17625189e+02, 1.86007276e+01, -3.14651256e+01,
                9.52033837e+01, 6.06969143e+00, -6.38327884e+01, -1.24317653e+02,
                2.64340063e+01, -1.29058245e+02, 6.59454090e+00, -3.04305376e+01,
               -1.27803465e+02, -8.35522802e+01, -3.80587753e+01, 1.02471056e+01,
               -9.87342737e+01, -3.86565746e+01, -1.76455659e+01, 4.33248232e+01,
               -2.11061910e+01, 3.31541700e+01, 1.18605178e+02, -1.14398694e+02,
               -2.08116416e+01, -1.44311188e+02, 7.22251425e+00, -1.20529357e+02,
                2.09943547e+01, -3.93289658e+01, -6.72243193e+01, -1.47722505e+01,
                7.33219291e+01, 8.79474024e+00, -2.38944770e+02, -1.56876475e-01,
               -9.41669153e+00, -1.05014785e+02, 2.04421232e+01, -1.64711833e+02,
               -8.30790001e+01, -6.88882635e+00, 1.82937083e+01, 6.70283539e+01,
                8.17404977e+01, 3.92040101e+01, -6.02938844e+00, 5.42285685e+01,
               -1.16400131e+01, 1.47856284e+02, 1.49759065e+02, -1.11609655e+02,
                3.54667319e+01, -2.61219398e+01, -1.52487316e+02, 4.26365294e+01,
               -1.72553988e+02, 1.22769070e+02, -2.28814838e+01, 5.57923795e+01,
               -1.58246340e+02, -2.53154074e+01, -2.22088541e+02, -8.53695324e+01,
               -5.12041579e+00, -7.22164716e+01, -1.03998122e+02, 1.77624159e+02,
               -6.35817478e+01, -1.95591947e+02, -9.54834934e+01, 1.26435825e+02,
               -1.22231925e+00, -4.76308826e+01, -3.79494377e+01, -3.51622384e+01,
                1.39485049e+01, -1.16805974e+02, -8.54038803e+01, -1.59811947e+02,
               -2.34631916e+02, -2.78731260e+01, -2.46195688e+01, 4.13379127e+01,
                2.87264966e+01, -9.97012076e+01, 1.09283642e+02, 6.84739955e+01,
               -2.00562262e+02, 2.42090730e+01, -6.13968096e+01, -7.69057990e+01,
               -6.73346759e+01, 2.00762214e+02, -6.30449515e+01, -4.02305495e+01,
                4.33539237e+01, -3.87128936e+02, -1.99321159e+02, -1.45479898e+02,
                8.57530475e+01, 3.40706928e+01, -2.71244014e+02, 1.30498083e+01,
               -9.78337679e+01, 9.90055348e+01, 9.42248119e+01, 1.87403068e+02,
                4.91892879e+01, -1.29779393e+02, -1.60108876e+02, -9.90374458e+01,
               -1.21934617e+02, -2.21544474e+02, -1.81932688e+02, -1.03997334e+02,
                6.35557668e+01, 3.71252473e+01, 1.09112640e+02, -9.67390616e+01,
                2.22333647e+02, -6.03592117e+01, -5.20025004e+01, 4.25278833e+02,
                5.62460886e+01, -9.74456144e+01, -1.61244037e+02, -1.39304960e+01,
                8.77574634e+01, -1.14695045e+02, 2.54411199e+01, 1.63528814e+01,
               -1.46170039e+02, 2.06980817e+01, -1.06232038e+01, 1.77526416e+01,
               -1.99046326e+02, -1.46386391e+02, 8.56430701e+01, 5.46941897e+01,
               -9.47737594e+01, -1.04540744e+02, -3.69323119e+01, -1.00220230e+02,
               -7.17554375e+01, -2.16720508e+02, -1.34349279e+02, 2.53820715e+02,
                2.06861356e+01, -9.43461464e+01, 2.18259229e+01, -6.63296344e+01,
               -8.64814243e+01, -4.29930497e+02, -8.13241732e+01, 2.00269111e+02,
               -2.12455356e+02, -1.87119752e+02, -1.08495830e+02, -1.98535610e+02,
               -3.67214592e+00, -1.95587338e+02, 1.70389700e+02, 1.89471180e+01,
                2.02016820e+02, 1.60198814e+02, 2.98706025e+02, -2.14992793e+01,
               -1.34037673e+02, 1.96622839e+02, 8.32093504e+01, -7.77861543e+01,
               -1.40243443e+02, -1.43473923e+02, 8.13481503e+01, 1.56358167e+02,
               -1.39021928e+02, -1.91968258e+02, -3.64867205e+01, 9.15274453e-01,
                3.10572424e+02, -6.17232368e+01, -1.69192602e+02, -1.44048405e+02,
                1.60488971e+02, 1.37177673e+02, -5.57423007e+01, -2.80066702e+01,
                5.62788950e+01, 3.97947948e+01, -4.75880091e+00, -1.01820813e+02,
                2.71397753e+01, -1.92472281e+02, 3.72456285e+01, -1.58560707e+01,
               -6.24940378e+01, -1.03710283e+02, 5.46716469e+01, -1.66860312e+01,
               -1.97912371e+02, 2.82026210e+02, 5.06526957e+01, -2.07221317e+02,
               -1.38361961e+02, -1.85153782e+01, 2.38727821e+02, 9.48973479e+01,
               -2.67294862e+01, 1.89193171e+02, 1.54981457e+02, 3.40311307e+00,
                1.03030298e+02, -6.44960165e+01, -2.06665757e+02, -2.66397211e+00,
               -6.90771842e+01, -2.11115501e+02, 1.43749711e+02, 4.14041243e+02, -3.17580168e+01, -3.01402972e+01, 1.37616134e+02, 5.89043267e+00,
               -7.69320473e+01, 3.37165255e+01, 1.85387088e+01, -6.78721225e+01,
                7.48737120e+01, 1.20379847e+02, 2.81834333e+02, -1.43351653e+02,
               -2.09265182e+02, 2.54822317e+01, -1.34446252e+01, 6.93128462e+01,
               -4.55108603e+01, -5.94411753e+01, -5.42014949e+01, -1.40527933e+02,
               -1.10984429e+01, 5.33430188e+01, 1.44828697e+02, 4.64523076e+00,
                5.05753558e+01, 3.96515764e+01, 1.89339015e+01, 2.06562436e+02,
                1.87170535e+02, 3.70793154e+00, -1.45969056e+01, -2.63231286e+02,
                1.21315750e+02, -1.39190914e+02, -1.62533472e+02, 5.05411880e+01,
                2.88469345e+01, 6.74264193e+01, -9.40302281e+01, 7.42093226e+01,
               -2.16366286e+01, -1.86138617e+01, -7.47411642e+01, -5.92559919e+01,
               -1.57104817e+02, 6.60621657e+01, -4.69217349e+01, -7.69848397e+01,
               -3.58472814e+01, 1.22983394e+02, -1.78529424e+02, 4.52327454e+00,
               -2.63380702e+01, -1.60830277e+02, 1.61114832e+00, -1.70094610e+02,
                8.86574806e+01, -6.75616566e+00, 5.44970720e+01, 7.79882310e+01,
                1.53982477e+02, -9.67457171e+01, -1.46988911e+02, -4.78452889e+01,
                5.42634355e+01, 6.05034550e+01, -2.87289574e+01, 3.31916628e+02,
               -5.89549637e+01, -4.15412123e+01, -2.99078446e+00, 1.23104934e+02,
               -6.31137325e+01, -3.42817421e+01, -3.58268971e+01, 1.62940328e+01,
               -1.67501262e+01, -4.34000184e+01, -1.78279056e+02, 1.58034786e+01,
                1.00102323e+01, 3.36661857e+02, -9.29460562e+00, -1.26792887e+02,
               -1.35452239e+02, 8.70317558e+01, 2.85724170e+02, 1.47313815e+02,
               -5.27647487e+01, -3.76480246e+01, 7.39958573e+01, -1.81296595e+02,
                7.35517829e+01, 1.19267650e+02, 2.18372397e+02, 1.04222332e+02,
                4.82355412e+01, 2.98660442e+01, -6.17740627e+01, -1.05107904e+02,
               -9.10531890e+01, 1.90484872e+02, -6.22832288e+01, -9.96346287e+01,
                2.86805603e+01, 7.63304831e+01, 8.27891694e+01, -9.27699783e+01,
               -2.22530582e+02, -6.86362180e+01, 9.15227203e+00, 1.32697530e+02,
               -1.05997454e+02, -1.93863859e+02, -1.39579158e+01, -4.23786357e+01,
                1.72385334e+02, -9.91352733e+01, 2.17568923e+02, 1.19641880e+02,
                4.77552257e+01, -7.95339862e+01, 8.81419350e+01, -3.23621153e+01,
                6.89023310e+01, 1.13229528e+02, -1.14211712e+02, 1.31731740e+02,
               -8.21851291e+01, -2.39652139e+02, -7.28315278e+01, 8.43559675e+01,
               -5.99223636e+00, 4.68686474e+01, 2.57230694e+02, -2.71995877e+02,
                2.02724525e+02, -2.23361144e+02, 7.77215248e+01, 1.30501047e+02,
                2.32334018e+02, 1.11874534e+02, -1.02110861e+02, -1.28087274e+02,
                7.88428118e+01, -1.37665681e+02, -2.35986312e+02, -6.53843003e+01,
               -6.52742342e+01, -1.65535598e+01, -1.75638736e+01, 1.11370026e+01,
                1.50763875e+02, 2.38313575e+01, -1.95582715e+02, 1.82703647e+02,
                5.86933645e+01, 2.64933041e+02, 6.14663755e+01, 4.48096685e+01,
                7.57790580e+01, -1.55421167e+02, -1.90576291e-01, -2.99434283e+00,
               -1.97751325e+02, -9.94439907e+01, 1.13228977e+02, -1.29311157e+02,
               -9.43759191e+01, 1.18959177e+02, -5.91960496e+01, 1.31187610e+02,
               -6.15017074e+01, 3.25158846e+00, 6.38685321e+01, 9.08838212e+00,
                1.44129375e+02, 1.69858086e+02, -3.02923023e+01, 8.18012593e+01,
                4.08523736e+01, -9.71169183e+01, 1.58618664e+02, 2.08678829e+02,
                7.08100220e+01, 1.35625357e+02, -2.65388303e+01, -4.13711884e+00,
                2.24559351e+02, 1.13521352e+02, 2.15598071e+02, 1.58093492e+01,
                5.45542488e+01, 7.71116930e+01, 1.23385953e+02, 9.04811581e+01,
               -8.70347111e+01, -9.63634621e+00, -1.51217771e+02, -1.21877788e+02,
                1.47166412e+02, 1.82695089e+02, 6.11265678e+01, -2.07732563e+02,
                8.58403063e+01, -5.69190780e+01, -2.60047202e+02, -3.94255158e+01,
               -1.89685362e+02, -1.83838506e+02, -2.59478838e+01, 1.85562637e+01,
               -6.90922414e+01, 1.01796167e+01, 4.23343236e+01, 1.73340265e+02,
                1.91277602e+02, 1.11392289e+01, -2.05081239e+02, 1.24316879e+02,
                1.05130543e+02, 1.29230089e+02, 2.06661489e+01, 4.49110388e+00,
               -2.23884341e+01, -2.26675821e+02, -8.00970538e+01, -6.27198464e+01,
               -7.63566079e+01, 1.23370283e+01, -6.70399817e+01, -2.83708520e+00,
                1.22044592e+01, -4.18740310e+01, 2.26789754e+02, 1.12041421e+02,
                1.20771366e+02, 7.85063528e+01, 1.75809064e+02, -1.23550927e+01,
               -8.86174067e+00, 1.92181182e+00, 7.34475048e+01, -2.86834687e+02,
               -8.04570276e+01, -8.41662457e+01, -1.55388589e+02, -3.30568432e+01,
                4.96121055e+01, -4.50374741e+01, 1.61617579e+01, -2.06881511e+01,
                6.36680007e+01, 5.99603747e+01, -1.94249878e+02, -2.23815843e+01,
               -1.23758039e+02, 1.21940601e+02, 1.25142997e+02, 1.29137688e+02,
                1.18290500e+02, 8.08576008e+01, -2.47402762e+01, -2.05613615e+02,
               -1.79542098e+01, 5.24528079e+01, -1.64739429e+02, 9.71534645e+00,
                1.64419529e+02, -2.19366876e+02, 1.48795194e+02, 7.99354770e+01,
                3.38789245e+01, 5.02103091e+01, 3.70877096e+01, -1.17717093e+02,
                1.50378970e+02, -2.95028122e+02, 2.40107313e+02, 2.84988724e+01,
                7.16695912e+01, 7.87316796e+01, -2.50481119e+02, -6.25603902e+01,
               -4.79090662e+01, -1.12195471e+02, 4.48715125e+01, 2.27117521e+02,
                1.62751234e+02, -1.13709995e+02, 9.59254329e+01, -2.39858491e+02,
               -2.28574027e+02, -1.65179005e+02, -2.16827936e+02, -1.66953233e+01,
               -1.30485756e+02, -1.87495297e+02, -1.56975523e+02, 1.69202232e+02,
               -5.29658850e+01, -1.95669039e+02, -4.52650021e+01, -2.17972174e+02,
                1.50579813e+02, -1.13293037e+02, 6.38674053e+01, 1.31110540e+02,
               -9.91644720e+01, 1.31671871e+02, -1.21893178e+02, -1.44656668e+02,
                1.56936265e+01, -3.18156929e+01, -2.22642441e+02, 1.76629220e+02,
               1.42431126e+01, 1.97545558e+00, 6.30733861e+01, 1.91315003e+02, -3.77041264e+01, 8.84691000e+00, 2.49052878e+00, -3.93280370e+01,
                1.74340884e+02, -6.29593413e+01, -1.59155604e+02, 4.29501997e+01,
                1.01031311e+01, 2.04045491e+01, 1.28386396e+02, -1.48197002e+02,
                1.14642009e+02, -1.89340674e+02, 2.02931222e+01, -1.42369989e+02,
                1.33119555e+02, 8.58334733e+01, 1.72069607e+02, -5.35730610e+01,
               -7.23149750e-01, 3.96071345e+01, -2.95918782e+02, -9.30749916e+01,
                9.00406850e+01, -1.15965341e+01, 6.88054830e+01, -1.25573858e+02,
                8.36537580e+01, 1.94412997e+02, -2.96668410e+00, -6.09875802e+01,
                7.19384538e+01, 7.23079613e+01, 2.61633535e+02, 2.40539139e+02,
                7.33348356e+01, 5.05290166e+01, -2.05721412e+02, -1.60394444e+02,
                2.01170312e+01, -1.17474340e+02, -2.57973201e+02, -1.25670747e+02,
               -3.52689343e+02, -1.91961452e+02, -2.62463440e+02, -6.98114146e+01,
                9.83334811e+01, 4.68548154e+01, -3.81449245e+01, -1.03641158e+02,
                7.44647562e+01, 1.49145334e+01, 1.73019535e+02, -1.08093907e+01,
               -4.14441084e+01, -3.18690097e-01, 1.21402408e+02, -1.29909468e+02,
                                7.11094953e+01, 4.19768521e+01, 5.48716110e+00,
               -7.86985131e+01,
                5.33844039e+01, 7.37511563e+01, -8.30571971e+01, 3.99080288e+01,
               -1.10357146e+02, -7.37741198e+01, 2.31607794e+02, -1.93327989e+02,
               -1.08632444e+00, 1.41775481e+02, 3.18126456e+01, -1.97340924e+01,
                5.01274365e+00, -1.51279980e+02, -1.01066456e+02, 6.86280520e+01,
                1.43036143e+02, 3.63796192e+01, -2.85783057e+02, -1.46469872e+02,
                1.69170088e+02, -1.03369032e+02, -1.13165326e+01, -3.45435991e+01,
                1.70220300e+02, 1.79469097e+02, -5.43194678e+01, -1.18101588e+02,
               -2.41397695e+01, 3.05204916e+02, 8.93357476e+01, -2.17203234e+02,
                9.37547151e+00, -1.07373748e+02, 3.19100782e+01, 7.47992634e+01,
               -1.49576867e+02, -1.00499285e+02, 1.13201423e+02, 9.54683562e+01,
               -2.81216260e+01, 5.17504965e+01, 1.02365831e+02, 7.29028593e+01,
                3.03030338e+00, 4.66934848e+01, -1.12106140e+02, 2.25052695e+02,
                3.50984980e+01, 7.01382175e+01, -1.86221237e+02, 3.88356416e+01,
                5.62763977e+01, 1.16600950e+02, -2.00040016e+02, -1.71109521e+01,
                4.85289700e+01, -1.13535905e+02, -1.03695082e+02, 1.17651992e+02,
               3.44904950e+01, -1.15383735e+02, 2.12446383e+00, -1.63162010e+02, -2.23387616e+02, 1.31509369e+02, 2.73901339e+02, 3.09324442e+01,
                1.20980435e+02, 3.04891504e+01, -8.72609234e+01, 1.23022595e+02,
                3.33550311e+01, -6.75423175e+01, -8.33566826e+00, -2.65105205e+02,
               -3.05727952e+02, -1.45377398e+02, -3.01246166e+00, -3.74953329e+02,
               -9.44418406e+01, -2.72659892e+02, -1.18712558e+02, -2.88465849e+01,
                8.72563195e+01, -7.47512778e+01, -1.20792876e+02, 1.92823659e+02,
                1.80660104e+02, -1.12253921e+02, 3.79321966e+01, -3.77576195e+01,
               -1.33383567e+02, 1.22270918e+02, -1.84748571e+01, 9.67984628e+01,
               -2.35420392e+02, -1.96284413e+02, -6.09804688e+01, 8.44693540e+01,
               -1.77821133e+01, -1.34933257e+02, -7.99284665e+01, -1.72318606e+02,
               -1.52168210e+02, 6.03471043e+01, -4.99750742e+01, 1.54657642e+02,
               -1.62506069e+02, 1.49043173e+02, -1.02039753e+02, 1.44380897e+02,
               -8.51035799e+01, 9.76829376e+01, 1.34879863e+02, -6.84364721e+01,
               -1.12479526e+02, -7.29304214e+01, -1.65251361e+01, -8.20579632e+01,
                2.23752212e+01, -5.36369746e+01, -1.14043962e+02, 9.78575518e+01,
               -1.13315689e+02, 1.75410249e+02, 4.44944289e+01, 1.24519075e+01,
               -1.49173488e+02, -4.20982446e+01, -3.68246908e+01, -2.12010274e+02,
               -4.43895851e+01, 1.05537975e+02, 6.89415287e+01, -1.25927253e+02,
                1.90581132e+02, -1.14957765e+02, 2.71004366e+01, -1.54323617e+02,
               -1.58896005e+02, 1.23231069e+01, 1.00664287e+02, -6.34134946e+01,
                1.43153533e+02, -6.65457676e+01, -1.68222839e+02, -8.84873064e+01,
                6.65421177e+01, -3.54145226e+01, -2.33072499e+02, 3.02686003e+01,
                3.50235510e+01, 4.73202453e+01, 9.86452257e+01, -1.84228147e+01,
                3.51685733e+01, -1.06577661e+01, -6.71603690e+00, -2.89837977e+01,
                7.70262745e+01, -5.53853043e+01, -1.41119620e+01, -8.67312380e+01,
               -1.31116924e+01, -1.51636126e+02, -4.46976580e+00, 3.43944484e+00,
                1.11328111e+02, -4.73924834e+01, 2.98773388e+02, 1.06136735e+02,
               -1.40971149e+02, -1.43905591e+01, -3.94453155e+01, 2.96762252e+01,
                5.73154774e+01, -1.01621885e+02, 4.94140210e+01, 3.63227370e+01,
               -8.82564171e+01, 5.58984435e+01, -1.57609409e+02, 1.38146490e+02,
                3.68534510e+00, 1.07809386e+02, -1.62494832e+02, -1.57010167e+01,
                1.29998660e+02, -3.92636017e+01, -3.39309396e+01, -5.99182453e+01,
               -3.91549737e+01, 7.89936648e+01, -8.31125626e+01, -2.66286812e+02,
                3.82013222e+01, 3.45750133e+02, 1.70644814e+02, -1.03172842e+02,
                8.60250857e+01, 1.93016961e+02, 1.45717793e+02, 9.30499706e+01,
                7.80280429e+01, 1.32653314e+02, 1.88597488e+02, -1.38275993e+01,
                3.21949758e+01, -2.13065588e+02, -8.27324661e+01, -4.47935708e+00,
                1.67522565e+02, 5.85074094e+01, -9.11422076e+01, -1.79731422e+02,
                3.64410376e+01, -9.52450902e+01, -1.58505256e+02, 1.24942553e+02,
               -4.93561712e+01, 1.88712452e+02, 1.50341388e+02, 1.21561932e+02,
               -1.68087544e+02, 1.64732633e+02, -1.07598860e+02, -1.57640371e+02,
               -3.43379386e+01, -1.28462781e+02, 1.80655659e+02, 1.55225591e+02,
               -9.40757702e+01, -3.42270295e+02, -1.51212448e+01, -6.19347782e+01,
               -1.19290217e+01, 8.55093842e+01, -7.18719609e+01, 2.04382270e+01,
                8.64251114e+01, -1.16940942e+02, 1.71014593e+02, 5.36940753e+01,
               -3.49275881e+01, -2.22596460e+01, 1.60541278e+02, 9.42963978e+01,
               -2.99834574e+01, 1.68611335e+02, -1.85990090e+02, 8.58783580e+01,
               -4.19279434e+01, -7.82704001e+01, 3.59339024e+01, -1.71936837e+02,
               -9.54950359e+01, -3.38193282e+01, -5.07424260e+01, -1.90821217e+02,
                9.56401632e-01, -8.21729676e+01, -8.89355815e+01, 2.75199490e+01,
```

-3.07303570e+02, 5.62532199e+01, 2.72998170e+01, -3.06162411e+02, -1.60338285e+01, -4.96923896e+00, -4.47750562e+01, -1.55138947e+02, 7.88252573e+01, 1.05197022e+02, 2.25352184e+02, -6.11122405e+00, -1.22909680e+02, 2.39576194e+01, 1.41110992e+02, -4.71491862e+00, -4.93179001e+01, 5.01831476e+01, 1.28767332e+01, 1.48160966e+02, -1.58550014e+02, -2.22864010e+02, -2.89774068e+01, 2.29355133e+02, 5.32850434e+01, -1.13899218e+02, 8.45718603e+01, -1.33925928e+02, -9.51595622e+01, -2.07692156e+02, 3.72004548e+02, -1.26522746e+02, -1.57158286e+02, 2.68372883e+02, -2.21964086e+02, -1.45748091e+02, -2.22937826e+00, -3.15384655e+02, 2.22443715e+02, 8.29542999e+01, 7.53076823e+01, 2.25043656e+02, -6.54893691e+00, 1.32467915e+02, -8.91479804e+01, 6.17710695e+01, 3.24665903e+01, 1.08258806e+02, 1.13710686e+02, 1.05412126e+02, 1.95478993e+02, -6.18303210e+01, 3.96829016e+02, 3.55183978e+01, 4.65959490e+00, -1.39878885e+02]) In [5]: X train, X test, y train, y test = train test split(X, y, random state=0) In [6]: KnnReg = KNeighborsRegressor(n neighbors = 11) In [7]: KnnReg.fit(X train, y train) Out[7]: KNeighborsRegressor(n\_neighbors=11) In [8]: print(KnnReg.predict(X test))  $[\ 109.6836628 \ -166.71752107 \ -92.94554292 \ -143.4618294 \ -33.50024147$  $-122.45720958 \quad 208.40327995 \quad -88.67805346 \quad -51.65744915 \quad -10.06068851$ 119.45788187 -149.28491104 -144.02803308 -9.31001234 62.77790424 10.69988199 -91.85117251 32.56286278 -134.02992509 -92.22493962 7.56825498 -173.93509343 117.20958815 -169.82244145 6.73542239 142.18762295 4.70407744 -93.19141186 -105.41799486 -132.39964461 39.04905398 239.65818733 220.29636667 -157.0451847 -67.90809231 -128.94771002 18.21857863 94.32071318 14.35195837 -76.20770499 13.70600765 -30.69789355 308.19867491 -11.44426588 -166.11823959 -122.07535143 41.57759433 36.09432185 98.51123519 40.70137841 52.18233139 120.26991263 -49.17811207 -154.69807135 113.40648204 1.5473898 -188.21429231 248.93031944 110.0845371 71.7888645 138.55318769 -2.78646353 -244.14676556 155.94634657 19.67837129 -191.46928055 -70.87196536 72.98755031 83.87622975 33.65003063-28.23763416 69.69913875 -186.5533631 49.80822482 -66.98738286 156.00597071 -224.91194671 31.77453012 49.64799445 19.08774876 -37.90419091 -84.40746868 -97.44519611 176.50572523 104.3907824466.56927031 -66.06906779 8.53153081 68.06238152 171.31286375 47.91652945 196.38791189 -45.1005317 -143.61913068 91.48336752 -223.71295972 -102.73410342 -54.76525271 -85.27240021 59.18395475  $7.39854289 \ -124.30653561 \ -104.95861726 \ -44.72416376 \ -10.86177004$ -40.16041319 -15.0438451 -92.98172814 132.99892298 79.13614095100.21811321 -35.81522834 -215.26172973 -157.57736983 -8.53178981 119.38725806 -74.33873356 74.97992487 14.22318344 66.83315846 7.40994704 -24.7290343 33.98907581 -20.19774752 120.74132949 90.85117433 -101.73014983 3.0771913 91.94507032 80.34853424 117.33801943 -48.00840114 119.54122415 24.49628362 144.67183104  $-240.15629317 \quad -22.85750178 \quad 204.50228839 \quad -184.18112808 \quad -81.55525422$ -10.10565031 204.58232026 122.94946886 178.28476438 -31.4019845-171.8921766 73.40033805 -177.55293726 -28.79503218 -73.92044813-134.19887834 2.46202165 -112.81244049 87.27746877 -121.7255995541.20045846 14.35195837 -69.69952513 40.03362811 1.54736332 -34.16821309 -5.84739308 -3.74852454 -41.06219786 -84.31307556191.80851502 156.40105532 -206.7424938 -147.30234557 23.52392959 -1.68420752 45.41732821 17.98433894 96.85446851 -141.78173748 145.07958099 -167.33633364 -91.2526057 161.94389006 -96.27282269 106.61203647 -129.80080803 -38.56128008 -148.53901023 56.15744434 197.50674052 -70.90328181 -117.08931602 -44.52227852 193.18186167 -40.07392494 82.26416152 5.82107953 -19.97313888 186.17961534 -9.25797138 144.852727 51.81270485 129.57145088 -156.79749777 -10.69337941 -78.29673821 -125.9857125 74.6442655 -24.76562947 27.32546309 249.92531527 -107.6275466 123.58421564 -158.72023603 -50.71449598 75.71571181 93.33786601 -173.24749219 70.15325887 94.80895255 103.67603923 -181.28143145 -77.56832896 -30.40944898 7.23358241 -234.1857789 -65.55413773 88.28559914 -150.16158752 -133.14673131 70.79315435 -3.98791935 -132.59584897 -90.75785909 21.55560662 -39.59526372 -211.95177545 -224.17438198 116.04639924 -149.6104535 -145.6738983 -263.97136644 -39.9240967 -68.76518986 98.64612571 9.82787669 -116.42155756 -20.46387998 25.2925473 44.16906436] 37.74928729 38.01948619 31.23579462 -201.91221594 In [9]: print('Test Score: {:.3f}'.format(KnnReg.score(X\_test, y\_test))) Test Score: 0.969 In [10]: print('Train Score: {:.3f}'.format(KnnReg.score(X train, y train))) Train Score: 0.973 In [ ]:

-5.78726123e+01, 9.16322305e+01, 1.98267586e+02, -1.08897851e+01, -1.22954811e+01, -8.62534185e+01, 5.03993062e+01, 1.49226708e+02, 2.27774432e+02, 1.85960724e+02, 1.65037466e+01, 1.75329986e+02, -1.08242130e+00, -2.49078715e+01, 2.28647774e+02, -5.86368269e+01, -1.45723125e+01, 1.24170469e+02, -7.80273285e+01, -8.54396256e+01, -1.05723481e+02, 5.33989903e+01, -7.00604090e+01, -1.47146821e+02, -1.36343704e+02, -3.86904567e+01, 1.87255838e+02, 2.36867045e+02, 8.38474606e+01, -1.40560163e+02, 6.59403394e+01, 1.28941274e+02, -1.70435805e+02, -9.54707211e+01, -2.30651571e+02, 2.72086893e+02,