

```
In [8]: import numpy as np
a1=np.array([10,20,30,40])
a1

Out[8]: array([10, 20, 30, 40])

In [9]: a2=np.array((10,20,30,40))
a2

Out[9]: array([10, 20, 30, 40])

In [10]: a=np.array([10,20.9,30])
a

Out[10]: array([10. , 20.9, 30. ])

In [11]: a=np.array((20,30,60.9))
a

Out[11]: array([20. , 30. , 60.9])

In [12]: a=np.array([20,40.8,"200"])
a

Out[12]: array(['20', '40.8', '200'], dtype='<U32')

In [14]: a=np.array([200,300,400.87,"dsgdghgtrhjtyhj"])
a

Out[14]: array(['200', '300', '400.87', 'dsgdghgtrhjtyhj'], dtype='<U32')

In [16]: np.linspace(0,10,18)

Out[16]: array([ 0. ,  0.58823529,  1.17647059,  1.76470588,  2.35294118,
  2.94117647,  3.52941176,  4.11764706,  4.70588235,  5.29411765,
  5.88235294,  6.47058824,  7.05882353,  7.64705882,  8.23529412,
  8.82352941,  9.41176471, 10. ])

In [19]: np.linspace(0,1,600)

Out[19]: array([0. , 0.00166945, 0.0033389 , 0.00500835, 0.0066778 ,
 0.00834725, 0.01001669, 0.01168614, 0.01335559, 0.01502504,
 0.01669449, 0.01836394, 0.02003339, 0.02170284, 0.02337229,
 0.02504174, 0.02671119, 0.02838063, 0.03005008, 0.03171953,
 0.03338898, 0.03505843, 0.03672788, 0.03839733, 0.04006678,
 0.04173623, 0.04340568, 0.04507513, 0.04674457, 0.04841402,
 0.05008347, 0.05175292, 0.05342237, 0.05509182, 0.05676127,
 0.05843072, 0.06010017, 0.06176962, 0.06343907, 0.06510851,
 0.06677796, 0.06844741, 0.07011686, 0.07178631, 0.07345576,
 0.07512521, 0.07679466, 0.07846411, 0.08013356, 0.08180301,
 0.08347245, 0.0851419 , 0.08681135, 0.0884808 , 0.09015025,
 0.0918197 , 0.09348915, 0.0951586 , 0.09682805, 0.0984975 ,
 0.10016694, 0.10183639, 0.10350584, 0.10517529, 0.10684474,
 0.10851419, 0.11018364, 0.11185309, 0.11352254, 0.11519199,
 0.11686144, 0.11853088, 0.12020033, 0.12186978, 0.12353923,
 0.12520868, 0.12687813, 0.12854758, 0.13021703, 0.13188648,
 0.13355593, 0.13522538, 0.13689482, 0.13856427, 0.14023372,
 0.14190317, 0.14357262, 0.14524207, 0.14691152, 0.14858097,
 0.15025042, 0.15191987, 0.15358932, 0.15525876, 0.15692821,
 0.15859766, 0.16026711, 0.16193656, 0.16360601, 0.16527546,
 0.16694491, 0.16861436, 0.17028381, 0.17195326, 0.17362271,
 0.17529216, 0.17696161, 0.17863106, 0.18030051, 0.18196996,
 0.18363941, 0.18530886, 0.18697831, 0.18864776, 0.19031721,
 0.19198666, 0.19365611, 0.19532556, 0.19699501, 0.19866446,
 0.20033391, 0.20200336, 0.20367281, 0.20534226, 0.20701171,
 0.20868116, 0.21035061, 0.21202006, 0.21368951, 0.21535896,
 0.21702841, 0.21869786, 0.22036731, 0.22203676, 0.22370621,
 0.22537566, 0.22704511, 0.22871456, 0.23038401, 0.23205346,
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 0.24207016, 0.24373961, 0.24540906, 0.24707851, 0.24874796,
 0.25041741, 0.25208686, 0.25375631, 0.25542576, 0.25709521,
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 0.95993281, 0.96160226, 0.96327171, 0.96494116, 0.96661061,
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 0.98497456, 0.98664401, 0.98831346, 0.98998291, 0.99165236,
 0.99332181, 0.99499126, 0.99666071, 0.99833016, 1.00000000])

In [21]: a=np.arange(0,200)

In [22]: a

Out[22]: array([ 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199])

In [23]: np.exp(a)

Out[23]: array([1.00000000e+00, 2.71828183e+00, 7.38905610e+00, 2.00855369e+01,
 5.45981500e+01, 1.48413159e+02, 4.03428793e+02, 1.09663316e+03,
 2.98095799e+03, 8.10308393e+03, 2.20264058e+04, 5.98741417e+04,
 1.62754791e+05, 4.42413392e+05, 1.20260428e+06, 3.26901377e+06,
 8.8611052e+06, 2.41549528e+07, 6.56599691e+07, 1.78482301e+08,
 4.85165195e+08, 1.31881573e+09, 3.58491285e+09, 9.74480345e+09,
 2.64891221e+10, 7.20048993e+10, 1.95729609e+11, 5.32048241e+11,
 1.44625706e+12, 3.9313430e+12, 1.06864746e+13, 2.90488497e+13,
 7.8962902e+13, 2.14643580e+14, 5.83461743e+14, 1.58601345e+15,
 4.31123155e+15, 1.17191424e+16, 3.18559318e+16, 8.65934008e+16,
 2.35385267e+17, 6.39843494e+17, 1.73927404e+18, 4.72783947e+18,
 1.28516001e+19, 3.49342711e+19, 9.49611942e+19, 2.58131289e+20,
 7.01673591e+20, 1.90734657e+21, 5.18470553e+21, 1.40934908e+22,
 3.83100800e+22, 1.04137594e+23, 2.83075330e+23, 7.69478527e+23,
 2.09165950e+24, 5.68572000e+24, 1.54553894e+25, 4.20121040e+25,
 1.14200739e+26, 3.10429794e+26, 8.43835667e+26, 2.29378316e+27,
 6.23514908e+27, 1.69488924e+28, 4.60718663e+28, 1.25236317e+29,
 3.40427605e+29, 9.25378173e+29, 2.51543867e+30, 6.83767123e+30,
 1.85867175e+31, 5.05239363e+31, 1.37338298e+32, 3.73324200e+32,
 1.01480039e+33, 2.75851345e+33, 7.49841700e+33, 2.03828107e+34,
 5.4062238e+34, 1.50609731e+35, 4.09399696e+35, 1.11286375e+36,
 3.02507732e+36, 8.22301271e+36, 2.23524600e+37, 6.07603023e+37,
 1.65163625e+38, 4.48961282e+38, 1.22048329e+39, 3.31740010e+39,
 9.01762041e+39, 2.45124554e+40, 6.66317622e+40, 1.81121300e+41,
 4.92345829e+41, 1.33833472e+42, 3.63797095e+42, 9.8803032e+42,
 2.68811714e+43, 7.30705998e+43, 1.98626484e+44, 5.39922761e+44,
 1.4676223e+45, 3.98951957e+45, 1.08446386e+46, 2.94787839e+46,
 8.01316426e+46, 2.17820388e+47, 5.92097203e+47, 1.60948707e+48,
 4.37503945e+48, 1.18925902e+49, 3.23274119e+49, 8.78750164e+49,
 2.38690606e+50, 6.49313426e+50, 1.76501680e+51, 4.79781333e+51,
 1.30418080e+52, 3.54531118e+52, 9.63666567e+52, 2.59195173e+53,
 7.12058633e+53, 1.93557604e+54, 5.26144118e+54, 1.43020800e+55,
 3.87778041e+55, 1.05678871e+56, 2.87264955e+56, 7.80867107e+56,
 2.12261687e+57, 5.76987086e+57, 1.56841351e+58, 4.26338995e+58,
 1.15890954e+59, 3.15024275e+59, 8.56324762e+59, 2.32773204e+60,
 6.32743171e+60, 2.48752493e+61, 6.76179381e+61, 1.83080612e+62,
 3.45460606e+62, 9.39074129e+62, 2.55266814e+63, 6.93087142e+63,
 1.86618081e+64, 5.12717102e+64, 1.39370958e+65, 3.78484954e+65,
 1.02981983e+66, 2.79934052e+66, 7.60939648e+66, 2.06844842e+67,
 5.62262575e+67, 1.52838814e+68, 4.15458971e+68, 1.12933457e+69,
 3.06984964e+69, 8.34471649e+69, 2.26832912e+70, 6.16595783e+70,
 1.67608111e+71, 4.56060083e+71, 1.23846574e+72, 3.36649891e+72,
 9.1509281e+72, 2.48752493e+73, 6.76179381e+73, 1.83080612e+74,
 4.99632738e+74, 1.35814259e+75, 3.69181433e+75, 1.00353918e+76,
 2.72790232e+76, 7.41520730e+76, 2.01566233e+77, 5.47913827e+77,
 1.48938420e+78, 4.04856601e+78, 1.10051434e+79, 2.99150814e+79,
 8.13176221e+79, 2.1044214e+80, 6.00860471e+80, 1.63330810e+81,
 4.43979173e+81, 1.20686052e+82, 3.20058702e+82, 8.91756007e+82,
 2.42404415e+83, 6.58923516e+83, 1.79113982e+84, 4.86882283e+84,
 1.32348326e+85, 3.59760050e+85, 9.77929207e+85, 2.65828719e+86])
```

```
In [24]: np.log(a)
```

<ipython-input-24-89b6b8e53c58>:1: RuntimeWarning: divide by zero encountered in log
np.log(a)

```
Out[24]: array([ -inf,  0.          ,  0.69314718,  1.09861229,  1.38629436,
  1.60943791,  1.79175947,  1.94591815,  2.07944154,  2.19722458,
  2.30258509,  2.39789527,  2.48496656,  2.56494936,  2.63985733,
  2.7080592 ,  2.77258872,  2.83321334,  2.89037176,  2.94443898,
  2.99573227,  3.04452244,  3.09104245,  3.13549422,  3.17805383,
  3.21887582,  3.25809654,  3.29583687,  3.33220451,  3.36729583,
  3.40119738,  3.4339872 ,  3.4657359 ,  3.49650756,  3.52636052,
  3.55534806,  3.58351894,  3.61091791,  3.63758616,  3.66356165,
  3.6887945,  3.71357207,  3.7376962,  3.76120012,  3.78418963,
  3.80666249,  3.8286414 ,  3.8501476 ,  3.87120101,  3.8918203 ,
  3.91202301,  3.93182563,  3.95124372,  3.97029191,  3.98898405,
  4.00733319,  4.02535169,  4.04305127,  4.06044301,  4.07753744,
  4.09434456,  4.11087386,  4.12713439,  4.14313473,  4.15888308,
  4.17438727,  4.18965474,  4.20469262,  4.21950771,  4.2341065 ,
  4.24849524,  4.26267988,  4.27666612,  4.29045944,  4.30406509,
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  4.38202663,  4.39444915,  4.40671925,  4.41884061,  4.4308168 ,
  4.44265126,  4.4543473 ,  4.46590812,  4.47733681,  4.48863637,
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  4.60517019,  4.61512052,  4.62497281,  4.63472899,  4.6443909 ,
  4.65396035,  4.66343909,  4.67282883,  4.68211323,  4.69134788,
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  4.90527478,  4.91265489,  4.91998093,  4.92725369,  4.93447393,
  4.94164242,  4.94875989,  4.95582706,  4.96284463,  4.9698133 ,
  4.97673374,  4.98360662,  4.99043259,  4.99721227,  5.00394631,
  5.01063529,  5.01727984,  5.02388055,  5.03043792,  5.0369526 ,
  5.04342512,  5.04985601,  5.05624581,  5.06259503,  5.0689042 ,
  5.07517382,  5.08140436,  5.08759634,  5.0937502 ,  5.09986643,
  5.10594547,  5.11198779,  5.11799381,  5.12396398,  5.12989871,
  5.13579844,  5.14166356,  5.14749448,  5.15329159,  5.1590553 ,
  5.16478597,  5.1704084 ,  5.17614973,  5.18178355,  5.18733831,
  5.19285685,  5.19849703,  5.20408669,  5.20968415,  5.21549376,
  5.22035583,  5.22574667,  5.23110862,  5.23644196,  5.24174702,
  5.24702407,  5.25227343,  5.25749537,  5.26269819,  5.26785816,
  5.27299956,  5.27811466,  5.28320373,  5.28826703,  5.29330482])
```

```
In [26]: np.sqrt(a)
```

```
Out[26]: array([ 0.          ,  1.          ,  1.41421356,  1.73205081,  2.          ,
  2.23606798,  2.44948974,  2.64575131,  2.82842712,  3.          ,
  3.16227766,  3.31662479,  3.46410162,  3.60555128,  3.74165739,
  3.87298335,  4.          ,  4.12310563,  4.24264069,  4.35889894,
  4.47213595,  4.58257569,  4.69041576,  4.79583152,  4.89897949,
  5.          ,  5.09901951,  5.19615242,  5.29150262,  5.38516481,
  5.47722558,  5.56776436,  5.65685425,  5.74456265,  5.83095189,
  5.91607978,  6.          ,  6.08276253,  6.164414 ,  6.244998 ,
  6.32455532,  6.40312424,  6.4807407 ,  6.55743852,  6.63324958,
  6.70820393,  6.78232998,  6.8556546 ,  6.92820323,  7.          ,
  7.07106781,  7.14142843,  7.21110255,  7.28010989,  7.34846923,
  7.41619849,  7.48331477,  7.54983444,  7.61577311,  7.68114575,
  7.74596669,  7.81024968,  7.87400787,  7.93725393,  8.          ,
  8.06257775,  8.1240384 ,  8.18535277,  8.24621125,  8.30662386,
  8.36660027,  8.42614977,  8.48528137,  8.54400375,  8.60232527,
  8.66025404,  8.71779789,  8.77496439,  8.83176087,  8.88819442,
  8.94427191,  9.          ,  9.05538514,  9.11043358,  9.16515139,
  9.21954446,  9.2736185 ,  9.32737905,  9.38083152,  9.43398113,
  9.48683298,  9.53939201,  9.59166305,  9.64365076,  9.69535971,
  9.74679434,  9.79795897,  9.8488578 ,  9.89949494,  9.94987437,
  10.          ,  10.04987562,  10.09950494,  10.14889157,  10.19803903,
  10.24695077,  10.29563014,  10.34408043,  10.39230485,  10.44030651,
  10.48808848,  10.53565375,  10.58300524,  10.63014581,  10.67707825,
  10.72380529,  10.77032961,  10.81665383,  10.86270049,  10.90871211,
  10.95445115,  11.          ,  11.04536102,  11.09053651,  11.13552873,
  11.18033989,  11.22497216,  11.26942767,  11.3137085 ,  11.35781669,
  11.40175425,  11.44552314,  11.48912529,  11.53256259,  11.5758369 ,
  11.61895004,  11.66190379,  11.70469991,  11.74734012,  11.78982612,
  11.83215957,  11.87434209,  11.91637529,  11.95826074,  12.          ,
  12.04159458,  12.08304597,  12.12435565,  12.16552506,  12.20655562,
  12.24744871,  12.28820573,  12.32882801,  12.36931688,  12.40967365,
  12.4498996 ,  12.489996 ,  12.52996409,  12.56980509,  12.60952021,
  12.64911064,  12.68857754,  12.72792206,  12.76714533,  12.80624847,
  12.84523258,  12.88409073,  12.92284798,  12.9614814 ,  13.          ,
  13.03840481,  13.07666083,  13.11487705,  13.15294644,  13.19090596,
  13.22875656,  13.26649916,  13.3041347 ,  13.34166406,  13.37908816,
  13.41640786,  13.45362405,  13.49073756,  13.52774926,  13.56465997,
  13.60147051,  13.6381817 ,  13.67479433,  13.7113092 ,  13.74772708,
  13.78404875,  13.82027496,  13.85640646,  13.89244399,  13.92838828,
  13.96424004,  14.          ,  14.03566885,  14.07124728,  14.10673598])
```

```
In [27]: np.arange(300)
```

```
Out[27]: array([ 0,  1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12,
 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25,
 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38,
 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51,
 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64,
 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77,
 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90,
 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103,
104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116,
117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129,
130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142,
143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155,
156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168,
169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181,
182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194,
195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207,
208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220,
221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233,
234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246,
247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259,
260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272,
273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285,
286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298,
299])
```

```
In [28]: l=np.arange(300),np.arange(20),[3,9,10]
1

Out[28]: array([ 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12,
13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25,
26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38,
39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51,
52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64,
65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77,
78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90,
91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103,
104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116,
117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129,
130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142,
143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155,
156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168,
169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181,
182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194,
195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207,
208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220,
221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233,
234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246,
247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259,
260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272,
273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285,
286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298,
299]),
array([ 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16,
17, 18, 19]),
[3, 9, 10])

In [29]: l[0]

Out[29]: array([ 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12,
13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25,
26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38,
39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51,
52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64,
65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77,
78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90,
91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103,
104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116,
117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129,
130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142,
143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155,
156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168,
169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181,
182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194,
195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207,
208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220,
221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233,
234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246,
247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259,
260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272,
273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285,
286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298,
299])

In [31]: a1=np.linspace(0,100,1000)

In [32]: a2=np.arange(301)

In [36]: t=(a1,a2,(1,6,9))
t

Out[36]: (array([ 0. , 0.1001001, 0.2002002, 0.3003003,
0.4004004, 0.5005005, 0.6006006, 0.7007007,
0.8008008, 0.9009009, 1.001001, 1.1011011,
1.2012012, 1.3013013, 1.4014014, 1.5015015,
1.6016016, 1.7017017, 1.8018018, 1.9019019,
2.002002, 2.1021021, 2.2022022, 2.3023023,
2.4024024, 2.5025025, 2.6026026, 2.7027027,
2.8028028, 2.9029029, 3.003003, 3.1031031,
3.2032032, 3.3033033, 3.4034034, 3.5035035,
3.6036036, 3.7037037, 3.8038038, 3.9039039,
4.004004, 4.1041041, 4.2042042, 4.3043043,
4.4044044, 4.5045045, 4.6046046, 4.7047047,
4.8048048, 4.9049049, 5.00500501, 5.10510511,
5.20520521, 5.30530531, 5.40540541, 5.50550551,
5.60560561, 5.70570571, 5.80580581, 5.90590591,
6.00600601, 6.10610611, 6.20620621, 6.30630631,
6.40640641, 6.50650651, 6.60660661, 6.70670671,
6.80680681, 6.90690691, 7.00700701, 7.10710711,
7.20720721, 7.30730731, 7.40740741, 7.50750751,
7.60760761, 7.70770771, 7.80780781, 7.90790791,
8.00800801, 8.10810811, 8.20820821, 8.30830831,
8.40840841, 8.50850851, 8.60860861, 8.70870871,
8.80880881, 8.90890891, 9.00900901, 9.10910911,
9.20920921, 9.30930931, 9.40940941, 9.50950951,
9.60960961, 9.70970971, 9.80980981, 9.90990991],
dtype=float64), (array([ 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12,
13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25,
26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38,
39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51,
52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64,
65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77,
78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90,
91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103,
104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116,
117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129,
130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142,
143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155,
156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168,
169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181,
182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194,
195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207,
208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220,
221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233,
234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246,
247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259,
260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272,
273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285,
286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298,
299, 300]), (1, 6, 9))

In [38]: t[1]

Out[38]: array([ 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12,
13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25,
26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38,
39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51,
52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64,
65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77,
78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90,
91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103,
104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116,
117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129,
130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142,
143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155,
156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168,
169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181,
182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194,
195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207,
208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220,
221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233,
234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246,
247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259,
260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272,
273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285,
286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298,
299, 300])

In [41]: a=np.arange(2,31,3)

In [42]: a

Out[42]: array([ 2, 5, 8, 11, 14, 17, 20, 23, 26, 29])

In [43]: a[3]

Out[43]: 11

In [44]: a[-4]

Out[44]: 20

In [46]: a[1:7:2]

Out[46]: array([ 5, 11, 17])

In [47]: a[8]

Out[47]: array([ 2, 5, 8, 11, 14, 17, 20, 23])
```

```
In [48]: a[-7:-1]
```

```
Out[48]: array([11, 14, 17, 20, 23, 26])
```

```
In [ ]:
```