Course - Section
HW00: Homework Template

Due on January 1$^{\text{st}}$, 2026 at 11:59 AM

Instuctor, 09:00 AM

Vai Srivastava

February 4$^{\text{th}}$, 2026

Problem 1: Parts *(# pts.)*

   a. Instructions

   b. Instructions

Solution

Part A

Answer

Part B

Answer

Problem 2: Code *(# pts.)*

Instructions
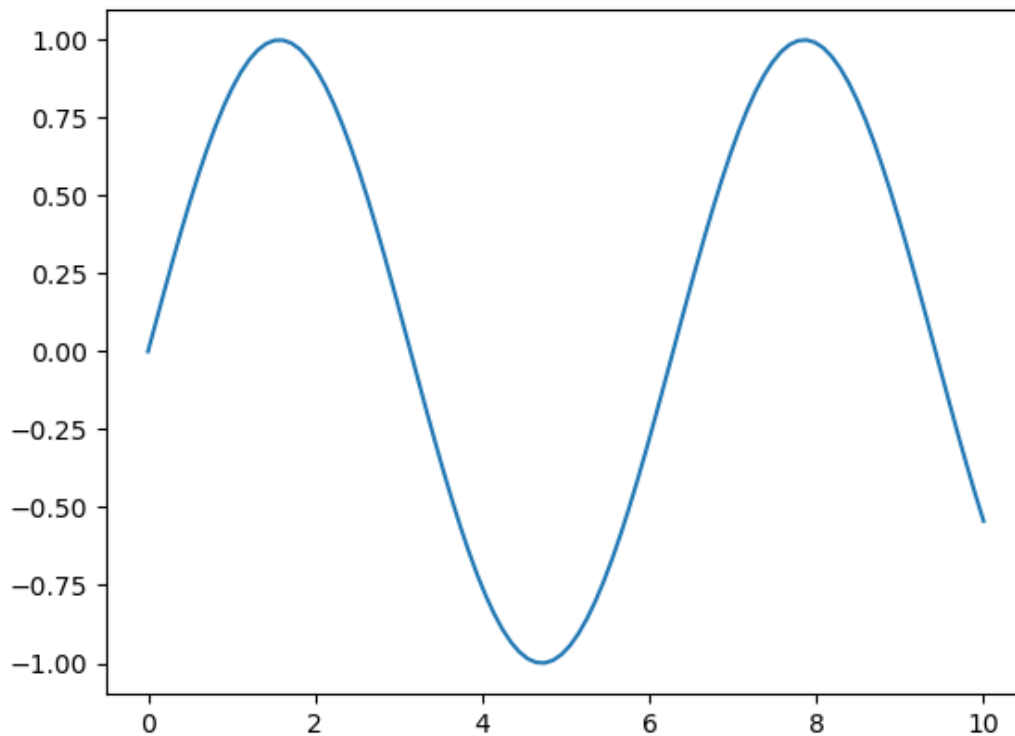
Solution

Figure 1: Example

```
1  x:
2  [ 0.          0.1010101   0.2020202   0.3030303   0.4040404   0.50505051
3    0.60606061  0.70707071  0.80808081  0.90909091  1.01010101  1.11111111
4    1.21212121  1.31313131  1.41414141  1.51515152  1.61616162  1.71717172
5    1.81818182  1.91919192  2.02020202  2.12121212  2.22222222  2.32323232
6    2.42424242  2.52525253  2.62626263  2.72727273  2.82828283  2.92929293
7    3.03030303  3.13131313  3.23232323  3.33333333  3.43434343  3.53535354
8    3.63636364  3.73737374  3.83838384  3.93939394  4.04040404  4.14141414
9    4.24242424  4.34343434  4.44444444  4.54545455  4.64646465  4.74747475
10   4.84848485  4.94949495  5.05050505  5.15151515  5.25252525  5.35353535
11   5.45454545  5.55555556  5.65656566  5.75757576  5.85858586  5.95959596
12   6.06060606  6.16161616  6.26262626  6.36363636  6.46464646  6.56565657
13   6.66666667  6.76767677  6.86868687  6.96969697  7.07070707  7.17171717
14   7.27272727  7.37373737  7.47474747  7.57575758  7.67676768  7.77777778
```

```
15    7.87878788  7.97979798  8.08080808  8.18181818  8.28282828  8.38383838
16    8.48484848  8.58585859  8.68686869  8.78787879  8.88888889  8.98989899
17    9.09090909  9.19191919  9.29292929  9.39393939  9.49494949  9.5959596
18    9.6969697   9.7979798   9.8989899   10.          ]

y:
[ 0.          0.10083842  0.20064886  0.2984138   0.39313661  0.48385164
  0.56963411  0.64960951  0.72296256  0.78894546  0.84688556  0.8961922
  0.93636273  0.96698762  0.98775469  0.99845223  0.99897117  0.98930624
  0.96955595  0.93992165  0.90070545  0.85230712  0.79522006  0.73002623
  0.65739025  0.57805259  0.49282204  0.40256749  0.30820902  0.21070855
  0.11106004  0.01027934 -0.09060615 -0.19056796 -0.28858706 -0.38366419
 -0.47483011 -0.56115544 -0.64176014 -0.7158225  -0.7825875  -0.84137452
 -0.89158426 -0.93270486 -0.96431712 -0.98609877 -0.99782778 -0.99938456
 -0.99075324 -0.97202182 -0.94338126 -0.90512352 -0.85763861 -0.80141062
 -0.73701276 -0.66510151 -0.58640998 -0.50174037 -0.41195583 -0.31797166
 -0.22074597 -0.12126992 -0.0205576   0.0803643   0.18046693  0.27872982
  0.37415123  0.46575841  0.55261747  0.63384295  0.7086068   0.77614685
  0.83577457  0.8868821   0.92894843  0.96154471  0.98433866  0.99709789
  0.99969234  0.99209556  0.97438499  0.94674118  0.90944594  0.86287948
  0.8075165   0.74392141  0.6727425   0.59470541  0.51060568  0.42130064
  0.32770071  0.23076008  0.13146699  0.03083368 -0.07011396 -0.17034683
 -0.26884313 -0.36459873 -0.45663749 -0.54402111]
```

Code

See the Python code for this problem.