1.​ ​Introduction This assignment will help you to consolidate the concepts learnt in the session.

2.​ ​Problem Statement

Task 1:

1.1

Write a Python Program to implement your own myreduce() function which works exactly like Python's built-in function reduce()

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| def myreduce(x):  y = 0  for i in range(0,len(x)):  y = y + x[i]    else:  print('Myreduce funtion total:',y)    a=[100,200,300,400,500]  myreduce(a) |

1.2

Write a Python program to implement your own myfilter() function which works exactly like Python's built-in function filter()

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| --- |
| def myfilter(x):  avg = 0  y=0  for i in range(0,len(x)):  y = y + x[i]  else:  avg = y / i  avg\_filter(avg)    def avg\_filter(p):  print('avg value is:',p)  for i in a:  if i > p:  print(i)  a = [4 , 3 ,2.4 , 1.6,0.8,1.1,4,1,2,6.1,2.7,3.0]  myfilter(a) |

2.

Implement List comprehensions to produce the following lists.

Write List comprehensions to produce the following Lists

['A', 'C', 'A', 'D', 'G', 'I', ’L’, ‘ D’]

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| --- |
| word = "ACADGILD"  result = [i for i in word]  print(result) |

['x', 'xx', 'xxx', 'xxxx', 'y', 'yy', 'yyy', 'yyyy', 'z', 'zz', 'zzz', 'zzzz']

|  |
| --- |
| a=['x','y','z']  result = [val \* val2 for val in a for val2 in range(1,5)]  print(result) |

[[2], [3], [4], [3], [4], [5], [4], [5], [6]]

|  |
| --- |
| x=[2,3,4]  result=[[i+j] for i in x for j in range(0,3)]  print(result) |

[[2, 3, 4, 5], [3, 4, 5, 6], [4, 5, 6, 7], [5, 6, 7, 8]]

|  |
| --- |
| x=[2,3,4,5]  result=[[i+j for i in x ] for j in range(0,4)]  print(result) |

[(1, 1), (2, 1), (3, 1), (1, 2), (2, 2), (3, 2), (1, 3), (2, 3), (3, 3)]

|  |
| --- |
| x=[1,2,3]  result=[(j,i) for i in x for j in x]  print(result) |