Problem Set 7, Problems 0 and 1

Problem 0: Reading and response

Put your response to the reading below.

IMPORTANT: Your entire response should fit on this page.

According to the article, the advantage of developing an evolving program is flexibility, which means that the program can still work well even if the desired task is poorly defined. Also, the program can adapt to unexpected changes when solving the task problem and successfully solve the problem by interacting among many simply programmed agents. Therefore, such evolving programs, functioning similarly to natural selection in biology, can grow, organize, and self-improve without much instructions from above (unlike top-down computation). However, such evolving programs have a major challenge which is the program designers often spend a lot of time studying the task problems and making a formula to measure the quality of the solutions to that task problem. Those solutions could usually be updated by those designers, but they are not evolving the solutions. Besides, other disadvantages are evolving programs still require improvements to be applied to other fields, be more automated, and be combined with manufacture.

Problem 1: Working with nested loops and 2-D lists
IMPORTANT: This heading should appear at the very top of the second page.

1-1

x	range(2, x)	y	value printed
3	[2]	2	6
4	[2,3]	2	8
		3	12
5	[2,3,4]	2	10
		3	15
		4	20
			5 4

1-2

a)
```
twoD[1][2]=12
```

b)
```
for r in range(len(twoD)):
      print(twoD[r][0])
```

c)
```
for r in range(len(twoD)):
      a = (len(twoD[0])-1)-r
      print(twoD[a][r])
```