**Final Problem 8**

[hanymahmoud](https://www.edx.org/courses/MITx/6.00x/2012_Fall/discussion/forum/users/621820) 2 days ago

Dear All, Can any one tell why this code fails in the grader first test only, It was graded 6.00 of 8.00   
It give array of array([ -3.97963619e-16, -2.00000000e+02]) , I know that a should be zero but what shall i do.

def findOrder(xVals, yVals, accuracy = 1.0e-1):

i = 1

while True:

z = pylab.polyfit(xVals, yVals, i ,full= True)

if sum (z[1]) &lt;= accuracy:

break

else:

i+=1

return z[0]

1. [3](javascript:void(0)) [xp42](https://www.edx.org/courses/MITx/6.00x/2012_Fall/discussion/forum/users/9673)

2 days ago

You forgot to try asking for a 0th order polynomial fit first.

* + I did the same mistake and lost two marks.

–posted a day ago by [Ramaraj](https://www.edx.org/courses/MITx/6.00x/2012_Fall/discussion/forum/users/670795)

* + Thanks You .

–posted a day ago by [hanymahmoud](https://www.edx.org/courses/MITx/6.00x/2012_Fall/discussion/forum/users/621820)

* + Is this documented anywhere?

–posted about 23 hours ago by [ammosov](https://www.edx.org/courses/MITx/6.00x/2012_Fall/discussion/forum/users/346640)

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1. [0](javascript:void(0)) [hdt](https://www.edx.org/courses/MITx/6.00x/2012_Fall/discussion/forum/users/70787)

2 days ago

Start with order 0 (i=0).

You want to be able to fit a 0 order curve (a flat line with no slope).

* + Thanks

–posted a day ago by [hanymahmoud](https://www.edx.org/courses/MITx/6.00x/2012_Fall/discussion/forum/users/621820)

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1. [0](javascript:void(0)) [DejaVu](https://www.edx.org/courses/MITx/6.00x/2012_Fall/discussion/forum/users/51829)

2 days ago

It fails 1 of 4 tests, go to <https://www.edx.org/courses/MITx/6.00x/2012_Fall/courseware/Final/CheckGrader_F2012_Final/> for details.

Let us know if you need more help

* + Thanks

–posted a day ago by [hanymahmoud](https://www.edx.org/courses/MITx/6.00x/2012_Fall/discussion/forum/users/621820)

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1. [0](javascript:void(0)) [200quatloos](https://www.edx.org/courses/MITx/6.00x/2012_Fall/discussion/forum/users/538365)

2 days ago

what if the dataset was xVals = [1,2,3] and yVals = [45,45,45]. What polynomial would fit?

* + Thanks

–posted a day ago by [hanymahmoud](https://www.edx.org/courses/MITx/6.00x/2012_Fall/discussion/forum/users/621820)

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1. [0](javascript:void(0)) [pyTony](https://www.edx.org/courses/MITx/6.00x/2012_Fall/discussion/forum/users/311172)

2 days ago

What is sum(z[1]), it is the fit isn't it, single value, oh it was actually numpy array. Luckily it behaves like single number. Thanks for getting me to notice it, I did not check it out as it just worked.

You can not match 0th degree function, change the starting value of i to 0.

* + Actually i used sum because i noticed that my code fails in the 4th degree and above polynomials on IDEL which produces an array with empty list and the fit and consquantly it goes for infinte loop. So if you can check simple 4th degree polynomial and feedback it will be great

–posted a day ago by [hanymahmoud](https://www.edx.org/courses/MITx/6.00x/2012_Fall/discussion/forum/users/621820)

* + Works for me:
  + from pylab import polyfit
  + def findOrder(xVals, yVals, accuracy = 1.0e-1):
  + n=-1
  + reserror=0
  + while accuracy &lt;= reserror or n==-1:
  + n+=1
  + reserror=polyfit(xVals,yVals,n,full=True)[1]
  + coeffs=polyfit(xVals,yVals,n,full=True)[0]
  + return coeffs
  + def f(x):
  + return 2\*x\*\*4+5\*x\*\*2+3\*x
  + data\_range = range(10)
  + print findOrder(data\_range, map(f, data\_range))
  + """Output:
  + [ 2.00000000e+00 9.44661206e-14 5.00000000e+00 3.00000000e+00
  + 2.17426077e-12]
  + """

–posted about 22 hours ago by [pyTony](https://www.edx.org/courses/MITx/6.00x/2012_Fall/discussion/forum/users/311172)

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1. [0](javascript:void(0)) [Mgarzelli](https://www.edx.org/courses/MITx/6.00x/2012_Fall/discussion/forum/users/710661)

a day ago

Thus I have a question too, I am still waiting for the grader to correct it and let me know, but here is what I wrote:

def findOrder(xVals, yVals, accuracy = 1.0e-1):

n=-1

reserror=0

while accuracy &lt;= reserror or n==-1:

n+=1

reserror=polyfit(xVals,yVals,n,full=True)[1]

coeffs=polyfit(xVals,yVals,n,full=True)[0]

return coeffs

and this also came up as wrong, although my testing on my computer worked

* + It does not enter the while loop because of or condition, which does not make sense. Remove it and it should work. But you should call polyfit once and save the needed parts of result.

–posted a day ago by [pyTony](https://www.edx.org/courses/MITx/6.00x/2012_Fall/discussion/forum/users/311172)

* + mmh, I have tested this same query on my laptop and the system worked fine, the loop was executed perfectly, the OR just makes the while condition True for the first entrance. So your argument does not really fit

for the second observation, indeed, I was a bit brain lazy there...

–posted a day ago by [Mgarzelli](https://www.edx.org/courses/MITx/6.00x/2012_Fall/discussion/forum/users/710661)

* + I have the very bad feeling that it was 'only' a matter of naming: I call polyfit, not pylab.polyfit ... which would be an assumption error, not a loop error.

–posted a day ago by [Mgarzelli](https://www.edx.org/courses/MITx/6.00x/2012_Fall/discussion/forum/users/710661)

* + That could be it, sorry that I could not read your code properly with forum formating. Actually my final refined solution is quite similar, but I use **pylab.polyfit**
  + def findOrder(xVals, yVals, accuracy = 1.0e-1):
  + order = 0
  + while order == 0 or fit &gt; accuracy:
  + res, [fit] = pylab.polyfit(xVals, yVals, order, full=True)[:2]
  + order += 1
  + return res

–posted a day ago by [pyTony](https://www.edx.org/courses/MITx/6.00x/2012_Fall/discussion/forum/users/311172)

* + Thank you Tony, I thought so (about the formatting) indeed, it does seem that my issue here is the 'pylab.'

I hope that the problem is marked by humans that can take that into account...

–posted a day ago by [Mgarzelli](https://www.edx.org/courses/MITx/6.00x/2012_Fall/discussion/forum/users/710661)

* + well, the grader finally gave me the output, and it was because I did not write **pylab.** in front of the polyfit.

This is so unfair: if I did notice that before, I would have gotten an A instead of a B

–posted a day ago by [Mgarzelli](https://www.edx.org/courses/MITx/6.00x/2012_Fall/discussion/forum/users/710661)

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1. [0](javascript:void(0)) [doyle043](https://www.edx.org/courses/MITx/6.00x/2012_Fall/discussion/forum/users/511903)

a day ago

Polyfit returns R. R\*\*2=accuracy. Made the same logic error.

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