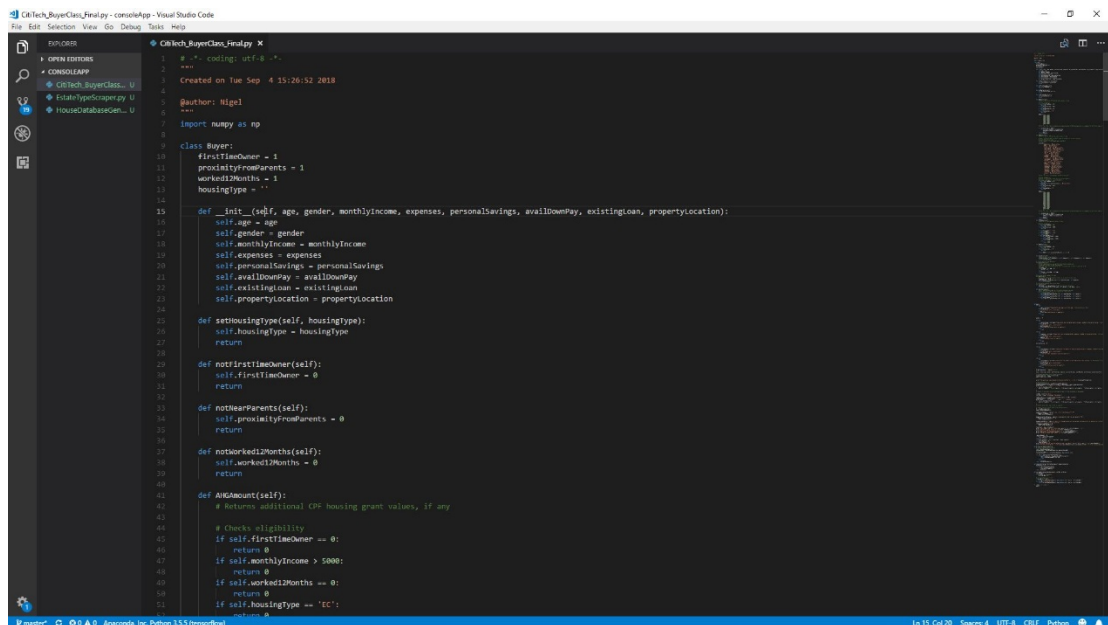


## Console Application Solution Instructions

1. Download the ConsoleApp from the Github repository
2. On command line, cd to the path of folder ConsoleApp
3. Alternatively, open the ConsoleApp folder on the IDE (e.g. Visual Studio Code, Sublime Text)



```
1 # -*- coding: utf-8 -*-
2 """
3 Created on Tue Sep 4 15:26:52 2018
4
5 @author: Nigel
6 """
7 import numpy as np
8
9 class Buyer:
10     firstTimeOwner = 1
11     proximityFromParents = 1
12     worked12Months = 1
13     housingType = ''
14
15     def __init__(self, age, gender, monthlyIncome, expenses, personalSavings, availDownPay, existingLoan, propertyLocation):
16         self.age = age
17         self.gender = gender
18         self.monthlyIncome = monthlyIncome
19         self.expenses = expenses
20         self.personalSavings = personalSavings
21         self.availDownPay = availDownPay
22         self.existingLoan = existingLoan
23         self.propertyLocation = propertyLocation
24
25     def setHousingType(self, housingType):
26         self.housingType = housingType
27         return
28
29     def notFirstTimeOwner(self):
30         self.firstTimeOwner = 0
31         return
32
33     def notNearParents(self):
34         self.proximityFromParents = 0
35         return
36
37     def notWorked12Months(self):
38         self.worked12Months = 0
39         return
40
41     def Amount(self):
42         # Returns additional CPS housing grant values, if any
43
44         # Checks eligibility
45         if self.firstTimeOwner == 0:
46             return 0
47         if self.monthlyIncome > 5000:
48             return 0
49         if self.worked12Months == 0:
50             return 0
51         if self.housingType == 'EC':
52             return 0
```

4. Open up the CitiTech\_BuyerClass.py file and run Python script
5. Answer the questions given as user inputs

```
Please define your age, as of this year: 30
Please enter your estimated monthly income, rounded to the nearest dollar: 3000
Please enter your estimated monthly expenses, rounded to the nearest dollar: 1800
Please enter the amount of funds you have available to downpay, rounded to the nearest dollar: 30000
Please enter the number of existing housing loans you have: 1
The amount you are estimated to be able to afford is:74,545.45454545454
Name      Price      Type      Location
NAME      0          4room     tampines
NAME      4000       5room     tampines
NAME      8000       EC         tampines
NAME      12000      4room     tampines
NAME      16000      5room     tampines
NAME      20000      EC         tampines
NAME      24000      4room     tampines
NAME      28000      5room     tampines
NAME      32000      EC         tampines
NAME      36000      4room     tampines
NAME      40000      5room     tampines
NAME      44000      EC         tampines
NAME      48000      4room     tampines
NAME      52000      5room     tampines
NAME      56000      EC         tampines
NAME      60000      4room     tampines
NAME      64000      5room     tampines
NAME      68000      EC         tampines
NAME      72000      4room     tampines
Sort by:Price
Ascending or Descending:Descending
```

```
Sort by:Price
Ascending or Descending:Descending
Name      Price      Type      Location
NAME      72000      4room     tampines
NAME      68000      EC        tampines
NAME      64000      5room     tampines
NAME      60000      4room     tampines
NAME      56000      EC        tampines
NAME      52000      5room     tampines
NAME      48000      4room     tampines
NAME      44000      EC        tampines
NAME      40000      5room     tampines
NAME      36000      4room     tampines
NAME      32000      EC        tampines
NAME      28000      5room     tampines
NAME      24000      4room     tampines
NAME      20000      EC        tampines
NAME      16000      5room     tampines
NAME      12000      4room     tampines
NAME      8000       EC        tampines
NAME      4000       5room     tampines
NAME      0          4room     tampines
Are you a first time homeowner? Y/Ny
Are staying within 4km from your parents? Y/Ny
At least 1 of the applicants must have worked continuously for 12 months prior to the flat application, and still be employed at the point of flat application. Is this true for you? Y/Ny
You are qualified for a total grant amount of: $30000
CPF Housing Grant amount: $30000
Additional CPF Housing Grant amount: $0
Special CPF Housing Grant amount: $0
Proximity Housing Grant amount: $0
Assuming that you take the maximum 25 year loan amount, you will have to pay $ 17000.0
This means drawing down 56.99999999999999% of your maximum available downpayment.
```