import unittest  
from rk2 import \*  
  
  
class TestRK2(unittest.TestCase):  
 # Компьютеры  
 computers = [  
 Computer(1, 'Enigma'),  
 Computer(2, 'Macintosh'),  
 Computer(3, 'Agat'),  
 Computer(4, 'Macintosh'),  
 Computer(11, 'Asus'),  
 Computer(22, 'Lenovo'),  
 Computer(33, 'Apple'),  
 Computer(44, 'AMD'),  
 ]  
  
 # Микропроцессоры  
 Systems = [  
 System(1, 'Windows', 12300, 1),  
 System(2, 'ATL\_Linux', 34500, 2),  
 System(3, 'RedHat', 56400, 3),  
 System(4, 'Fedora', 64400, 3),  
 System(5, 'MacOS', 75600, 4),  
 ]  
 browsers\_computers = [  
 BrowComp(1, 1), BrowComp(2, 2), BrowComp(3, 3), BrowComp(3, 4), BrowComp(4, 5),  
 BrowComp(11, 1), BrowComp(22, 2), BrowComp(33, 3), BrowComp(33, 4), BrowComp(44, 5),  
 ]  
  
 def test\_A1(self):  
 o\_to\_m = [(brw.name, brw.size, cmp.name)  
 for cmp in computers  
 for brw in Systems  
 if brw.comp\_id == cmp.id]  
 self.assertEqual(n1\_sol(o\_to\_m),  
 ('Agat', 56400, 'Agat'))  
  
 def test\_A2(self):  
 o\_to\_m = [(brw.name, brw.size, cmp.name)  
 for cmp in computers  
 for brw in Systems  
 if brw.comp\_id == cmp.id]  
 self.assertEqual(n2\_sol(o\_to\_m),  
 [('Enigma', 12300)])  
  
 def test\_A3(self):  
 m\_to\_m\_tmp = [(cmp.name, brwcmp.comp\_id, brwcmp.brow\_id)  
 for cmp in computers  
 for brwcmp in browsers\_computers  
 if cmp.id == brwcmp.comp\_id]  
  
 m\_to\_m = [(brw.name, brw.size, tmp\_name)  
 for tmp\_name, tmp\_id, emp\_id in m\_to\_m\_tmp  
 for brw in Systems if brw.id == emp\_id]  
 self.assertEqual(n3\_sol(m\_to\_m),  
 [('ATL\_Linux', 12300, 'Enigma'),  
 ('RedHat', 12300, 'Asus'), ('Fedora', 34500, 'Macintosh'), ('Fedora', 34500, 'Lenovo'),  
 ('OperaGX', 75600, 'Macintosh'), ('OperaGX', 75600, 'AMD'), ('Fedora', 56400, 'Agat'),  
 ('MacOS', 56400, 'Apple'), ('Yandex', 64400, 'Agat'), ('Yandex', 64400, 'Apple')])  
  
if \_\_name\_\_ == '\_\_main\_\_':  
 unittest.main()

Результат работы программы:  
('Agat', 45000, 'Agat') ('Agat', 35000, 'Agat') N 2 [('Enigma', 25000), ('Macintosh', 25000), ('Macintosh', 25000), ('Agat', 35000)] N 3 [('Chrome', 25000, 'Enigma'), ('Chrome', 25000, 'Asus'), ('Opera', 35000, 'Macintosh'), ('Opera', 35000, 'Lenovo'), ('OperaGX', 25000, 'Macintosh'), ('OperaGX', 25000, 'AMD'), ('Safari', 45000, 'Agat'), ('Safari', 45000, 'Apple'), ('Yandex', 35000, 'Agat'), ('Yandex', 35000, 'Apple')]