

Examples of list, tuples and dictionary:
Screen grabs from idle session

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Python 2.7.15 Shell
File Edit Shell Debug Options Window Help
Python 2.7.15 (v2.7.15:ca079a3ea3, Apr 30 2018, 16:30:26) [MSC v.1500 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>> num1 = 5
>>> num2 = 2
>>> num3 = -3
>>> num4 = 0
>>> x_vtx = 2.71
>>> y_vtx = -8.33
>>> x_vtx = 5.20
>>> x_vtx = 2.71
>>> z_vtx = 5.20
>>> point1 = (x_vtx, y_vtx, z_vtx)
>>> grp1 = "char_grp"
>>> grp2 = "bldg_grp"
>>> grp3 = "env_grp"
>>> all_nums = [num1, num2, num3, num4]
>>> point2 = (x_vtx * 2.5, y_vtx, z_vtx * -1)
>>> point3 = (0.0, 0.0, z_vtx)
>>> point4 = (0.0, y_vtx * 5, z_vtx)
>>> all_points = [point1, point2, point3, point4]
>>> type(num1)
<type 'int'>
>>> type(x_vtx)
<type 'float'>
>>> type(grp1)
<type 'str'>
>>> type(all_nums)
<type 'list'>
>>> type(point1)
<type 'tuple'>
>>> scene = {}
>>> type(scene)
<type 'dict'>
>>> scene[grp1] = [("rat", point1), ("dog", point1), ("cat", point3), ("bear", point2)]
>>> from pprint import pprint
>>> pprint(scene)
{'char_grp': [('rat', (2.71, -8.33, 5.2)),
               ('dog', (2.71, -8.33, 5.2)),
               ('cat', (0.0, 0.0, 5.2)),
               ('bear', (6.775, -8.33, -5.2))]}
>>> |
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>>> pprint(scene['char_grp'])
[('rat', (2.71, -8.33, 5.2)),
 ('dog', (2.71, -8.33, 5.2)),
 ('cat', (0.0, 0.0, 5.2)),
 ('bear', (6.775, -8.33, -5.2))]
>>> point1[1]
-8.33
>>> point4
(0.0, -41.65, 5.2)
>>> point4[-1]
5.2
>>> # tuples and strings are immutable
>>> point4[0] = 4

Traceback (most recent call last):
  File "<pyshell#33>", line 1, in <module>
    point4[0] = 4
TypeError: 'tuple' object does not support item assignment
>>> all_points
[(2.71, -8.33, 5.2), (6.775, -8.33, -5.2), (0.0, 0.0, 5.2), (0.0, -41.65, 5.2)]
>>> all_points.append(num1)
>>> all_points
[(2.71, -8.33, 5.2), (6.775, -8.33, -5.2), (0.0, 0.0, 5.2), (0.0, -41.65, 5.2), 5]
>>> all_points.append(scene["char_grp"])
>>> pprint(all_points)
[(2.71, -8.33, 5.2),
 (6.775, -8.33, -5.2),
 (0.0, 0.0, 5.2),
 (0.0, -41.65, 5.2),
 5,
 [('rat', (2.71, -8.33, 5.2)),
 ('dog', (2.71, -8.33, 5.2)),
 ('cat', (0.0, 0.0, 5.2)),
 ('bear', (6.775, -8.33, -5.2))]]
>>> print(all_points)
[(2.71, -8.33, 5.2), (6.775, -8.33, -5.2), (0.0, 0.0, 5.2), (0.0, -41.65, 5.2), 5, [('rat', (2.71, -8.33, 5.2)), ('dog', (2.71, -8.33, 5.2)), ('cat', (0.0, 0.0, 5.2)), ('bear', (6.775, -8.33, -5.2))]]

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>>> del all_points[-2:-1]
>>> pprint(all_points)
[(2.71, -8.33, 5.2),
 (6.775, -8.33, -5.2),
 (0.0, 0.0, 5.2),
 (0.0, -41.65, 5.2),
 [('rat', (2.71, -8.33, 5.2)),
 ('dog', (2.71, -8.33, 5.2)),
 ('cat', (0.0, 0.0, 5.2)),
 ('bear', (6.775, -8.33, -5.2))]]
>>> len(all_points)
5
>>> del all_points[4]
>>> all_points
[(2.71, -8.33, 5.2), (6.775, -8.33, -5.2), (0.0, 0.0, 5.2), (0.0, -41.65, 5.2)]
>>> all_points
[(2.71, -8.33, 5.2), (6.775, -8.33, -5.2), (0.0, 0.0, 5.2), (0.0, -41.65, 5.2)]
>>> print("number of items in all_points list %d" % len(all_points))
number of items in all_points list 4
>>> num_list = []
>>> type(num_list)
<type 'list'>
>>> num_list = [num1, num2]
>>> num_list
[5, 2]
>>> num_list.append(num3)
>>> num_list
[5, 2, -3]
>>> vtx_list = scene["char_grp"]
>>> vtx_list
[('rat', (2.71, -8.33, 5.2)), ('dog', (2.71, -8.33, 5.2)), ('cat', (0.0, 0.0, 5.2)), ('bear', (6.775, -8.33, -5.2))]
>>> vtx_list = [point1, point2, point3]
>>> vtx_list
[(2.71, -8.33, 5.2), (6.775, -8.33, -5.2), (0.0, 0.0, 5.2)]
>>> num_list
[5, 2, -3]
>>> num_list.extend(vtx_list)
>>> num_list
[5, 2, -3, (2.71, -8.33, 5.2), (6.775, -8.33, -5.2), (0.0, 0.0, 5.2)]
>>> num_list.sort()
>>> num_list
[-3, 2, 5, (0.0, 0.0, 5.2), (2.71, -8.33, 5.2), (6.775, -8.33, -5.2)]
>>> |

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