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# [What's the difference between list and tuples?](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples)

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| --- | --- | --- | --- | --- |
| up vote311down vote[favorite](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples)  153 | What's the difference?  What are the advantages / disadvantages of tuples / lists?  [python](http://stackoverflow.com/questions/tagged/python) [list](http://stackoverflow.com/questions/tagged/list) [tuples](http://stackoverflow.com/questions/tagged/tuples)   |  |  |  | | --- | --- | --- | | [share](http://stackoverflow.com/q/626759)[improve this question](http://stackoverflow.com/posts/626759/edit) | [edited Jun 25 '14 at 13:52](http://stackoverflow.com/posts/626759/revisions)  [[https://www.gravatar.com/avatar/5caaf7e0d764745b31979d09c46a3c81?s=32&d=identicon&r=PG](http://stackoverflow.com/users/1251007/user1251007)](http://stackoverflow.com/users/1251007/user1251007)  [user1251007](http://stackoverflow.com/users/1251007/user1251007) **2,156**21438 | asked Mar 9 '09 at 15:41  [[https://www.gravatar.com/avatar/6e06a3fc8dee08637ab5c7e17d05f17b?s=32&d=identicon&r=PG](http://stackoverflow.com/users/20601/lucas-gabriel-s%C3%A1nchez)](http://stackoverflow.com/users/20601/lucas-gabriel-s%c3%a1nchez)  [Lucas Gabriel Sánchez](http://stackoverflow.com/users/20601/lucas-gabriel-s%c3%a1nchez) **5,048**123868 | |
|  | |  |  |  |  | | --- | --- | --- | --- | | |  |  | | --- | --- | | 6 |  | | The others answered below, but I'd like to point out, that, imho, python has a totally unintuitive data type names. I don't think any other language has tuples (by that name), and whats worse as a word I can't even translate it in my language. Does anyone know where "tuple" comes from ? Dutch ? –  [ldigas](http://stackoverflow.com/users/62699/ldigas" \o "21685 reputation) [Mar 9 '09 at 16:36](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment439581_626759) | | |  |  | | --- | --- | | 8 |  | | Haskell has got tuples too. –  [Georg Schölly](http://stackoverflow.com/users/24587/georg-sch%c3%b6lly" \o "67476 reputation) [Mar 9 '09 at 16:38](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment439591_626759) | | |  |  | | --- | --- | | 39 |  | | Tuples are a basic term in mathematics, derived from latin (see wikipedia). –  [nikow](http://stackoverflow.com/users/11992/nikow" \o "9642 reputation) [Mar 9 '09 at 16:42](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment439606_626759) | | |  |  | | --- | --- | | 33 |  | | pair -> triple -> quadruple -> quintuple -> sextuple -> um, what's it called, ah sod it, 7-tuple -> 8-tuple -> ... hence 'tuple' as a generic name. –  [John Fouhy](http://stackoverflow.com/users/15154/john-fouhy" \o "16122 reputation) [Mar 9 '09 at 22:21](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment440892_626759) | | |  |  | | --- | --- | | 4 |  | | tuples are also used in the D programming language, i wish i could use it like this in c++ :P –  [Quonux](http://stackoverflow.com/users/388614/quonux) [Jul 23 '10 at 17:52](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment3442776_626759) |   [show **13** more comments](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples) |

## 10 Answers

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|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| up vote395down voteaccepted | | Apart from tuples being immutable there is also a semantic distinction that should guide their usage. Tuples are heterogeneous data structures (i.e., their entries have different meanings), while lists are homogeneous sequences. **Tuples have structure, lists have order.**  Using this distinction makes code more explicit and understandable.  One example would be pairs of page and line number to reference locations in a book, e.g.:  my\_location = (42, 11) # page number, line number  You can then use this as a key in a dictionary to store notes on locations. A list on the other hand could be used to store multiple locations. Naturally one might want to add or remove locations from the list, so it makes sense that lists are mutable. On the other hand it probably doesn't make sense to change the page number in a location tuple while keeping the line number intact - this would give you a completely new location. On the other hand, there might be situations where it makes perfect sense to correct just the line number (without replacing the whole tuple).  There are some interesting articles on this issue, e.g. ["Python Tuples are Not Just Constant Lists"](http://jtauber.com/blog/2006/04/15/python_tuples_are_not_just_constant_lists/)or ["Understanding tuples vs. lists in Python"](http://news.e-scribe.com/397). The official Python documentation [also mentions this](http://docs.python.org/2/tutorial/datastructures.html#tuples-and-sequences)("Tuples are immutable, and usually contain an heterogeneous sequence ...").  In a statically typed language like Haskell the values in a tuple generally have different types and the length of the tuple must be fixed. In a list the values all have the same type and the length is not fixed. So the difference is very obvious.  Finally there is the [namedtuple](http://docs.python.org/dev/library/collections.html#collections.namedtuple) in Python, which makes sense because a tuple is already supposed to have structure. This underlines the idea that tuples are a light-weight alternative to classes and instances.   |  |  |  | | --- | --- | --- | | [share](http://stackoverflow.com/a/626871)[improve this answer](http://stackoverflow.com/posts/626871/edit) | [edited Dec 11 '13 at 21:24](http://stackoverflow.com/posts/626871/revisions) | answered Mar 9 '09 at 16:02  [[https://www.gravatar.com/avatar/09b743ba088c0bf7e07ee429a32acedc?s=32&d=identicon&r=PG](http://stackoverflow.com/users/11992/nikow)](http://stackoverflow.com/users/11992/nikow)  [nikow](http://stackoverflow.com/users/11992/nikow) **9,642**42654 | |
|  | | |  |  |  |  | | --- | --- | --- | --- | | |  |  | | --- | --- | | 2 |  | | @duffymo: It took me a while to stumble across this as well :) Many people are probably not aware of this, and some might even disagree. I found this convention to be quite helpful in practice. –  [nikow](http://stackoverflow.com/users/11992/nikow" \o "9642 reputation) [Mar 9 '09 at 17:16](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment439756_626871) | | |  |  | | --- | --- | | 2 |  | | Mentioning collections.namedtuple might be helpful. –  [J.F. Sebastian](http://stackoverflow.com/users/4279/j-f-sebastian" \o "116516 reputation) [Mar 9 '09 at 20:39](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment440557_626871) | | |  |  | | --- | --- | | 13 |  | | "lists are homogeneous sequences" - I'm new to Python, but aren't lists heterogeneous? From[docs.python.org/py3k/tutorial/introduction.html](http://docs.python.org/py3k/tutorial/introduction.html) : "List items need not all have the same type." But maybe you're speaking about the formal concept, and not the Python take on it. –  [Matthew Cornell](http://stackoverflow.com/users/1082367/matthew-cornell" \o "940 reputation) [Sep 4 '12 at 14:41](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment16446382_626871) | | |  |  | | --- | --- | | 6 |  | | @Matthew Even though the language does allow you to mix types in a list this is usually not a good idea. What would you do with such a list? Iterating over it doesn't make much sense, unless the list items share a common interface that you can use. –  [nikow](http://stackoverflow.com/users/11992/nikow" \o "9642 reputation) [Feb 3 '13 at 13:20](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment20510335_626871) | | |  |  | | --- | --- | | 3 |  | | A good semantic synonym for "tuple" might be "record." It's a collection of related data items in a specific sequence. In fact I feel like collections.namedtuple would be better called collections.record. It would make no sense to swap, say, the name and address in a customer record; in fact, doing so would generally be an error, which the tuple's immutability prevents you from committing. –  [kindall](http://stackoverflow.com/users/416467/kindall" \o "65910 reputation) [Oct 28 '13 at 18:58](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment29165520_626871) |   [show **20** more comments](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples) |
| up vote93down vote | If you went for a walk, you could note your coordinates at any instant in an (x,y) tuple.  If you wanted to record your journey, you could append your location every few seconds to a list.  But you couldn't do it the other way around.   |  |  |  | | --- | --- | --- | | [share](http://stackoverflow.com/a/627165)[improve this answer](http://stackoverflow.com/posts/627165/edit) | [edited Feb 7 '13 at 0:17](http://stackoverflow.com/posts/627165/revisions) | answered Mar 9 '09 at 17:14  [[https://www.gravatar.com/avatar/a4c50597f47ad4cb6e6d945500e7eea9?s=32&d=identicon&r=PG](http://stackoverflow.com/users/60620/dan-gph)](http://stackoverflow.com/users/60620/dan-gph)  [dan-gph](http://stackoverflow.com/users/60620/dan-gph) **6,000**42453 | | |
|  | |  |  |  |  | | --- | --- | --- | --- | | |  |  | | --- | --- | | 9 |  | | This example looks like merely a convention. People could argue "I can still use [x, y] to note coordinates if I want". Therefore, this answer is considered uncompleted unless one more sentence: "Read @nikow 's post for why you should not use list to store coordinates" –  [Iceberg](http://stackoverflow.com/users/728675/iceberg" \o "1079 reputation) [Mar 29 '13 at 15:47](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment22305811_627165) | | |  |  | | --- | --- | | 20 |  | | @Iceberg, my answer is meant to help develop intuition. It's not meant to explore every nuance of the topic.–  [dan-gph](http://stackoverflow.com/users/60620/dan-gph) [Apr 14 '13 at 0:00](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment22805019_627165) | | |  |  | | --- | --- | |  |  | | Nice example +1. It emphasizes the complementary nature of the tuple elements (here the coordinates), which is the reason why modifying any one of them is not allowed -- because it changes the meaning of the whole tuple (here the position of one point). –  [Hao Wang](http://stackoverflow.com/users/1405762/hao-wang" \o "60 reputation) [Jan 4 at 6:54](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment43937248_627165) |   add a comment | |

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| --- | --- | --- | --- | --- |
| up vote66down vote | Difference between list and tuple   1. **Size**   a = tuple(range(1000)) b = list( range(1000)) a.\_\_sizeof\_\_() # 8024 b.\_\_sizeof\_\_() # 9088  Due to the smaller size of a tuple operation with it a bit faster but not that much to mention about until you have a huge amount of elements.   1. **Permitted operations**   b = [1,2] b[0] = 3 # [3, 2] a = (1,2) a[0] = 3 # Error  that also mean that you can't delete element or sort tuple. At the same time you could add new element to both list and tuple with the only difference that you will change id of the tuple by adding element  a = (1,2) b = [1,2] id(a) # 140230916716520 id(b) # 748527696 a += (3,) # (1, 2, 3) b += [3] # [1, 2, 3] id(a) # 140230916878160 id(b) # 748527696   1. **Usage**   You can't use list as a dictionary identifier  a = (1,2) b = [1,2] c = {a: 1} # OK c = {b: 1} # Error   |  |  |  | | --- | --- | --- | | [share](http://stackoverflow.com/a/18892969)[improve this answer](http://stackoverflow.com/posts/18892969/edit) | [edited Sep 19 '13 at 13:12](http://stackoverflow.com/posts/18892969/revisions)  [[https://www.gravatar.com/avatar/cf1b41a0f134b54597bf8a618be7880f?s=32&d=identicon&r=PG](http://stackoverflow.com/users/102441/eric)](http://stackoverflow.com/users/102441/eric)  [Eric](http://stackoverflow.com/users/102441/eric) **38.5k**1378170 | answered Sep 19 '13 at 11:07  [[https://www.gravatar.com/avatar/dcfa0b4f0f7c9496efadebd7d8726899?s=32&d=identicon&r=PG](http://stackoverflow.com/users/1872618/nikita)](http://stackoverflow.com/users/1872618/nikita)  [Nikita](http://stackoverflow.com/users/1872618/nikita) **728**45 | |
|  | |  |  |  |  | | --- | --- | --- | --- | | |  |  | | --- | --- | | 10 |  | | I like this answer a lot because it contains all the different behavior which then results in different usage. – [Trilarion](http://stackoverflow.com/users/1536976/trilarion) [Mar 19 '14 at 9:16](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment34233234_18892969) |   add a comment |
| up vote33down vote | The key difference is that tuples are immutable. This means that you cannot change the values in a tuple once you have created it.  So if you're going to need to change the values use a List.  Benefits to tuples:   1. Slight performance improvement. 2. As a tuple is immutable it can be used as a key in a dictionary. 3. If you can't change it neither can anyone else, which is to say you don't need to worry about any API functions etc. changing your tuple without being asked.  |  |  |  | | --- | --- | --- | | [share](http://stackoverflow.com/a/626768)[improve this answer](http://stackoverflow.com/posts/626768/edit) | [edited Oct 1 '14 at 20:18](http://stackoverflow.com/posts/626768/revisions)  [[http://graph.facebook.com/179300453/picture?type=large](http://stackoverflow.com/users/3711588/tmthyjames)](http://stackoverflow.com/users/3711588/tmthyjames)  [tmthyjames](http://stackoverflow.com/users/3711588/tmthyjames) **89**17 | answered Mar 9 '09 at 15:42  [[https://www.gravatar.com/avatar/a780bab849bc39176f044f5effbba7da?s=32&d=identicon&r=PG](http://stackoverflow.com/users/3171/dave-webb)](http://stackoverflow.com/users/3171/dave-webb)  [Dave Webb](http://stackoverflow.com/users/3171/dave-webb) **96.7k**25206247 | |
|  | |  |  |  |  | | --- | --- | --- | --- | | |  |  | | --- | --- | |  |  | | Note that a tuple is only immutable *if all of its elements are*. You could say the same is true of all immutable collections, like frozenset or the various third-party frozen dict/tree/etc. types, but none of those allow you to add mutable elements. (And of course a tuple is only hashable if all of its elements are, which is handles in the usual EAFP way, so d[1, [2]] will raise TypeError: unhashable type: 'list'.) –  [abarnert](http://stackoverflow.com/users/908494/abarnert" \o "119346 reputation) [Nov 26 '14 at 20:45](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment42811093_626768) |   add a comment |

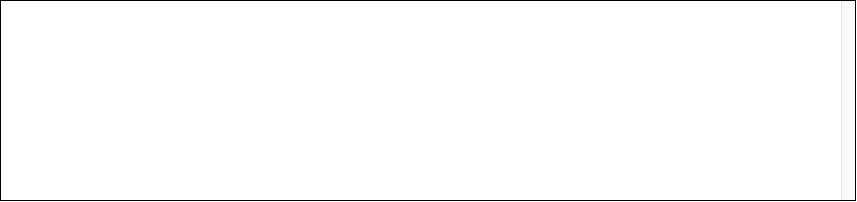
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| up vote12down vote | | Lists are mutable; tuples are not.  From [docs.python.org/2/tutorial/datastructures.html](http://docs.python.org/2/tutorial/datastructures.html)  Tuples are immutable, and usually contain an heterogeneous sequence of elements that are accessed via unpacking (see later in this section) or indexing (or even by attribute in the case of namedtuples). Lists are mutable, and their elements are usually homogeneous and are accessed by iterating over the list.   |  |  |  | | --- | --- | --- | | [share](http://stackoverflow.com/a/626764)[improve this answer](http://stackoverflow.com/posts/626764/edit) | [edited Feb 4 '14 at 20:47](http://stackoverflow.com/posts/626764/revisions) | answered Mar 9 '09 at 15:41  [[https://www.gravatar.com/avatar/eeec80237213c91e5bab56b77ac5b8ca?s=32&d=identicon&r=PG](http://stackoverflow.com/users/37213/duffymo)](http://stackoverflow.com/users/37213/duffymo)  [duffymo](http://stackoverflow.com/users/37213/duffymo) **198k**12198366 | |
|  | | |  |  |  |  | | --- | --- | --- | --- | | |  |  | | --- | --- | | 1 |  | | I really think you should also consider the semantic implications (see my answer below). –  [nikow](http://stackoverflow.com/users/11992/nikow" \o "9642 reputation) [Mar 9 '09 at 16:07](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment439437_626764) | | |  |  | | --- | --- | | 1 |  | | D'oh! I'll try to do better next time... –  [duffymo](http://stackoverflow.com/users/37213/duffymo" \o "197945 reputation) [Mar 9 '09 at 16:43](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment439610_626764) | | |  |  | | --- | --- | | 4 |  | | Feel free to edit your answer to include a relevant link. –  [S.Lott](http://stackoverflow.com/users/10661/s-lott" \o "218089 reputation) [Mar 9 '09 at 18:33](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment440050_626764) | | |  |  | | --- | --- | |  |  | | Hardly seems worth the effort now, but thanks for the heads up. –  [duffymo](http://stackoverflow.com/users/37213/duffymo" \o "197945 reputation) [Mar 9 '09 at 19:50](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment440289_626764) | | |  |  | | --- | --- | | 2 |  | | It is funny to see how other answers here have the same quality like this, but only this gets hated because of one commenter stating "-1". And there is another answer that has just 0.5 times the quality, but only 0.1 times the downvotes. –  [phresnel](http://stackoverflow.com/users/76722/phresnel" \o "21477 reputation) [Jul 19 '12 at 12:46](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment15291550_626764) |   [show **7** more comments](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples) |
| up vote6down vote | Lists are intended to be homogeneous sequences, while tuples are heterogeneous data structures.   |  |  | | --- | --- | | [share](http://stackoverflow.com/a/627901)[improve this answer](http://stackoverflow.com/posts/627901/edit) | answered Mar 9 '09 at 20:29  [[https://www.gravatar.com/avatar/c875b9bb282e1b19519e173e46652dda?s=32&d=identicon&r=PG](http://stackoverflow.com/users/75171/pquers)](http://stackoverflow.com/users/75171/pquers)  [pquers](http://stackoverflow.com/users/75171/pquers) **77**1 | | |
|  | |  |  |  |  | | --- | --- | --- | --- | | |  |  | | --- | --- | | 4 |  | | At this point, this answer doesn't add anything to the discussion, as there are many other better answers. – [Jonathon Reinhart](http://stackoverflow.com/users/119527/jonathon-reinhart) [Nov 25 '13 at 2:14](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment30091169_627901) | | |  |  | | --- | --- | |  |  | | This does not provide an answer to the question. To critique or request clarification from an author, leave a comment below their post. –  [Strawberry](http://stackoverflow.com/users/1529673/strawberry" \o "10910 reputation) [Jan 6 at 12:30](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment44005883_627901) |   add a comment | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| up vote4down vote | Lists are for looping, tuples are for structures i.e. "%s %s" %tuple.  Lists are usually homogeneous, tuples are usually heterogeneous.  Lists are for variable length, tuples are for fixed length.   |  |  |  | | --- | --- | --- | | [share](http://stackoverflow.com/a/16097958)[improve this answer](http://stackoverflow.com/posts/16097958/edit) | [edited Jun 3 '13 at 6:48](http://stackoverflow.com/posts/16097958/revisions)  [[https://www.gravatar.com/avatar/71828e3594c57e13f477c0db81b36e25?s=32&d=identicon&r=PG](http://stackoverflow.com/users/505893/bluish)](http://stackoverflow.com/users/505893/bluish)  [bluish](http://stackoverflow.com/users/505893/bluish) **6,130**94893 | answered Apr 19 '13 at 5:43  [[https://www.gravatar.com/avatar/7f7d32c5f3655a2143953feab8b4283f?s=32&d=identicon&r=PG&f=1](http://stackoverflow.com/users/201393/srinivas-reddy-thatiparthy)](http://stackoverflow.com/users/201393/srinivas-reddy-thatiparthy)  [Srinivas Reddy Thatiparthy](http://stackoverflow.com/users/201393/srinivas-reddy-thatiparthy) **5,514**11741 | |
|  | add a comment |
| up vote3down vote | It's [been mentioned](http://stackoverflow.com/a/626871/915501) that the difference is largely semantic: people expect a tuple and list to represent different information. But this goes further than a guideline, some libraries actually behave differently based on what they are passed. Take numpy for example (copied from [another post](http://stackoverflow.com/q/18181076/915501) where I ask for more examples):  >>> import numpy as np >>> a = np.arange(9).reshape(3,3) >>> a array([[0, 1, 2], [3, 4, 5], [6, 7, 8]]) >>> idx = (1,1) >>> a[idx] 4 >>> idx = [1,1] >>> a[idx] array([[3, 4, 5], [3, 4, 5]])  Point is, while numpy may not be part of the standard library, it's a major python library, and within numpy lists and tuples are completely different things.   |  |  |  | | --- | --- | --- | | [share](http://stackoverflow.com/a/18181253)[improve this answer](http://stackoverflow.com/posts/18181253/edit) | [edited Sep 20 '13 at 7:54](http://stackoverflow.com/posts/18181253/revisions) | answered Aug 12 '13 at 7:06  [[https://www.gravatar.com/avatar/b219b646efa3c74061977c39306c1841?s=32&d=identicon&r=PG](http://stackoverflow.com/users/915501/shep)](http://stackoverflow.com/users/915501/shep)  [Shep](http://stackoverflow.com/users/915501/shep) **2,313**1130 | |
|  | |  |  |  |  | | --- | --- | --- | --- | | |  |  | | --- | --- | |  |  | | This isn't really a helpful answer. The difference is that type(a\_list) != type(a\_tuple), so any piece of library code branching based on type(x) will behave differently –  [Eric](http://stackoverflow.com/users/102441/eric) [Sep 19 '13 at 13:14](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment27890560_18181253) | | |  |  | | --- | --- | |  |  | | good point, I've edited the post: this is really just pointing out that the semantic guidelines are hardcoded into some libraries. –  [Shep](http://stackoverflow.com/users/915501/shep" \o "2313 reputation) [Sep 20 '13 at 7:56](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment27918259_18181253) | | |  |  | | --- | --- | | 1 |  | | It might be better to use examples from the stdlib/builtins than from third-party libraries. There are a number of places where you can use a single value or a tuple of values, and a list or other sequence is considered a single value. For example, '%d %d' % [2, 3] is a TypeError, because you're trying to pass a list to the first %d and you're not passing any value to the second %d. (However, there are counter-examples to this too, like max…) –  [abarnert](http://stackoverflow.com/users/908494/abarnert" \o "119346 reputation) [Dec 1 '14 at 20:23](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment42949742_18181253) | | |  |  | | --- | --- | |  |  | | that's interesting, I didn't know there were any examples of this in the python standard library. A number of places you say? –  [Shep](http://stackoverflow.com/users/915501/shep" \o "2313 reputation) [Dec 2 '14 at 21:22](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment42991754_18181253) |   add a comment |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| up vote1down vote | The values of **list** can be changed any time but the values of **tuples** can't be change.  The **advantages and disadvantages** depends upon the use. If you have such a data which you never want to change then you should have to use tuple, otherwise list is the best option.   |  |  |  | | --- | --- | --- | | [share](http://stackoverflow.com/a/16960687)[improve this answer](http://stackoverflow.com/posts/16960687/edit) | [edited Jun 10 '13 at 8:14](http://stackoverflow.com/posts/16960687/revisions)  [[https://www.gravatar.com/avatar/71828e3594c57e13f477c0db81b36e25?s=32&d=identicon&r=PG](http://stackoverflow.com/users/505893/bluish)](http://stackoverflow.com/users/505893/bluish)  [bluish](http://stackoverflow.com/users/505893/bluish) **6,130**94893 | answered Jun 6 '13 at 11:14  user2436485 | | |
|  | add a comment | |
| up vote-3down vote | | List is mutable and tuples is immutable. The main difference between mutable and immutable is memory usage when you are trying to append an item.  When you create a variable, some fixed memory is assigned to the variable. If it is a list, more memory is assigned than actually used. E.g. if current memory assignment is 100 bytes, when you want to append the 101th byte, maybe another 100 bytes will be assigned (in total 200 bytes in this case).  However, if you know that you are not frequently add new elements, then you should use tuples. Tuples assigns exactly size of the memory needed, and hence saves memory, especially when you use large blocks of memory.   |  |  | | --- | --- | | [share](http://stackoverflow.com/a/26128173)[improve this answer](http://stackoverflow.com/posts/26128173/edit) | answered Sep 30 '14 at 19:01  [[https://www.gravatar.com/avatar/12c84439cec594717a2ad8138a7bffd6?s=32&d=identicon&r=PG&f=1](http://stackoverflow.com/users/3579327/tony)](http://stackoverflow.com/users/3579327/tony)  [Tony](http://stackoverflow.com/users/3579327/tony) **17**5 | |
|  | | |  |  |  |  | | --- | --- | --- | --- | | |  |  | | --- | --- | | 1 |  | | While some of that is technically true, that isn't really the crucial difference between mutable and immutable types. The bigger difference is that mutable types can be changed after construction, while immutable types can't. –  [Roger Fan](http://stackoverflow.com/users/2922139/roger-fan" \o "2446 reputation) [Sep 30 '14 at 19:25](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment40952575_26128173) | | |  |  | | --- | --- | | 1 |  | | That's not the why either. Memory and mutability have nothing to do with each other. That's simply an implementation detail specific to lists. Memory is also not assigned to variables, it's assigned to the objects. Variables are then just references to those objects. –  [Roger Fan](http://stackoverflow.com/users/2922139/roger-fan" \o "2446 reputation) [Sep 30 '14 at 19:32](http://stackoverflow.com/questions/626759/whats-the-difference-between-list-and-tuples#comment40952837_26128173) |   add a comment |

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