

## UI Python Libraries and Frameworks:

Textual, PyScript, PyVibe, Tkinter, Kivy, wxPython

## Langs that are both typed and untyped (Gradually typed):

Typescript, Dart, Racket

## Langs that support garbage collection:

RPL, Java, C#, D, Go

## C++ 2023 features:

1. `static_assert` (false) in templates
2. De-deprecating volatile compound operations
3. Relaxing `constexpr` restrictions
4. Extended floating-point types
5. Simpler implicit move
6. Equality operator fix
7. Portable assumptions

## Assembly Usage:

Part of coding operating systems (Direct Hardware manipulation)

Device drivers

Low-level embedded systems

Real-time systems

## Infinite for loop:

```
my_list = [0]
for i in my_list:
    print(i)
    my_list.append(i+1)
```

## Framework that makes mobile apps like flutter:

Kivy

## How to make multimap in python:

```
from collections import defaultdict
```

```
# create a defaultdict with list as the default factory
```

```
my_multimap = defaultdict(list)
```

```
# add some values to the multimap
```

```
my_multimap['key1'].append('value1')
```

```
my_multimap['key1'].append('value2')
```

```
my_multimap['key2'].append('value3')
```

```
# print the multimap
```

```
print(my_multimap)
```

{You can use a dictionary to store multiple values for a key. However, if you try to append a value to a key that doesn't exist yet, you'll get a `KeyError`. Using a `defaultdict` ensures that you can append values to any key without having to check if the key exists first.}

### What is a hashmap:

A hashmap is a data structure that stores key-value pairs. It uses a hash function to compute an index into an array of buckets or slots, from which the desired value can be found. In Python, the equivalent data structure is called a dictionary.