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source code ***freq.py***

```
# Created by Edvinas Dulskas 19040186


import inspect
import matplotlib.pyplot as plt


# ------------ Functions -------------
def char_freq(string):

        chars = {}
        for s in string:
                if s in chars.keys():
                        chars[s] += 1
                else:
                        chars[s] = 1

        return chars

def char_freq_file(file):

        fd = open(file, 'r')            # opens a file for reading
        data = fd.read()                # reads data
        freq = char_freq(data)          # calls first function for finding characters frequencies

        return freq

def histogram(dict_freq):

        plt.bar(list(dict_freq.keys()), dict_freq.values(), 0.05, color='g')
        plt.grid(True)
        plt.show()

        return
```

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```
# ---------- Main code ----------------

str_freq = char_freq('aaabbbccc')
file_freq = char_freq_file('data.txt')

print(str_freq)
print(file_freq)
histogram(file_freq)
```

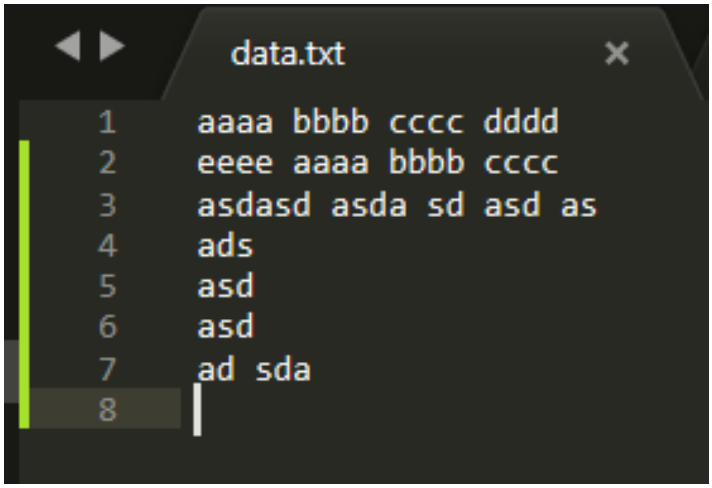
*Results of **char_freq** function:*

String: 'aaabbbccc'

```
{'a': 3, 'b': 3, 'c': 3}
[Finished in 0.7s]
```

*Results of **char_freq_file** function:*

Data file:




```
{'a': 19, ' ': 11, 'b': 8, 'c': 8, 'd': 14, '\n': 7, 'e': 4, 's': 10}
[Finished in 0.7s]
```

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*Results of **histogram** function:*

histogram((file_freq)