

```
import functools
```

```
words = open('wordlist.txt').read().split()  
layout = ['qwertyuiop', 'asdfghjkl', 'zxcvbnm']
```

```
def match(path, word):
```

```
    try:  
        for ch in word:  
            path=path[path.index(ch)+1:]  
        return True  
    except: return False
```

```
def get_keyboard_row(ch):
```

```
    return [rows[0] for rows in enumerate(layout) if ch in rows[1]][0]
```

```
def compress(l):
```

```
    return [x[0] for x in zip(l, l[1:]+[0]) if x[0] != x[1]]
```

```
def get_minimum_wordlength(path):
```

```
    return len(compress([get_keyboard_row(ch) for ch in path])) - 3
```

```
def get_suggestion(path):
```

```
    min_length = get_minimum_wordlength(path)
```

```
    return [word for word in  
            [word for word in  
             [word for word in words  
              if (path[0] == word[0]) and (path[-1] == word[-1])]  
             if match(path,word)]  
            if len(word) > min_length]
```