

#### #Question 4

```
str = 'Madam, this car is a honda civic'
```

```
def palindrome_words(asentence) :
    #clean punctuations
    punc = ' '!()-[]{};:'"\,<>./?@$%^&*~''
    cleaned = ''
    for ele in asentence:
        if ele not in punc:
            cleaned += ele

    #split sentence to list
    word = cleaned.split()
    result = []

    for string in word:
        if len(string) < 2: continue

        i = 0

        while (i < (len(string) - 1)/2) :
            #match upper and lowercase by ASCII value
            if (abs(ord(string[i]) - ord(string[-i - 1])) != 32
                and string[i] != string[-i - 1]) : break
            i += 1

        if i < (len(string) - 1)/2: continue
        result.append(string)

    return result

palindrome_words(str)
```

#### #Question 5

```
import pandas as pd
```

```
df = pd.read_csv('data.csv', index_col="Name")
```

```
df = pd.DataFrame(df)
```

```
df['E'] = ''
```

```
for i in range(len(df)):
    if df['A'][i] < df['B'][i]:#AB
        if df['B'][i] < df['C'][i]:#ABC
            if df['C'][i] < df['D'][i]: result = 'ABCD'
            elif df['B'][i] < df['D'][i]: result = 'ABDC'
            elif df['A'][i] < df['D'][i]: result = 'ADBC'
            else: result = 'DABC'
        elif df['A'][i] < df['C'][i]:#ACB
            if df['B'][i] < df['D'][i]: result = 'ACBD'
            elif df['C'][i] < df['D'][i]: result = 'ACDB'
            elif df['A'][i] < df['D'][i]: result = 'ADCB'
            else: result = 'DACB'
```

```

else:#CAB
    if df['B'][i] < df['D'][i]: result = 'CABD'
    elif df['A'][i] < df['D'][i]: result = 'CADB'
    elif df['C'][i] < df['D'][i]: result = 'CDAB'
    else: result = 'DCAB'
else:#BA
    if df['A'][i] < df['C'][i]:#BAC
        if df['C'][i] < df['D'][i]: result = 'BACD'
        elif df['A'][i] < df['D'][i]: result = 'BADC'
        elif df['B'][i] < df['D'][i]: result = 'BDAC'
        else: result = 'DBAC'
    elif df['B'][i] < df['C'][i]:#BCA
        if df['A'][i] < df['D'][i]: result = 'BCAD'
        elif df['C'][i] < df['D'][i]: result = 'BCDA'
        elif df['B'][i] < df['D'][i]: result = 'BDCA'
        else: result = 'DCBA'
    else:#CBA
        if df['A'][i] < df['D'][i]: result = 'CBAD'
        elif df['B'][i] < df['D'][i]: result = 'CBDA'
        elif df['C'][i] < df['D'][i]: result = 'CDBA'
        else: result = 'DCBA'

df['E'][i] = result

```