MID-TERM

```
std_id = your student' id
```

Question 1.(3 points)

```
stories = ['alice.txt','little_women.txt','moby_dick.txt','siddhartha.txt']
random.seed(std_id) #std_id is your student' id
story = random.choice(stories)
```

Create the class Story and its methods to

a) Read file story in the folder Data/stories/ and print the first five lines

b) Find the frequency of each word in the story (Not case sensitive).

c) Count a word from the line (std_id % 100) to line 200 in the story. Take three examples.

Question 2.(3 points). Create the class Matrix with the following template

```
import numpy as np
class Matrix:
    def __init__(self,matrix):
        self._matrix = matrix
```

where matrix is a matrix of integers. Create its methods to:

- Count the even entries.
- The sum of the entries greater than 3.
- Find the maximum entries of each row.
- Count the entries which are primes.
- Compute the product matrix of two matrices (don't use the built-in function in NumPy)

Use the two below matrices to test your methods:

```
np.random.seed(std_id)
A = np.random.randint(0,10,size = 63).reshape(9,7)
B = np.random.randint(0,10,size = 63).reshape(7,9)
```

Question 3.(2 points) The teacher wants to store the student's mark in a dictionary, with the key being the student's name and the value being the student's mark.

a) Allow the teacher to input the student's name and mark with the format:

Student name:

Mark:

Until the teacher inputs the student's name as END or end (at least 10 students).

If the teacher inputs the existing name in the dictionary, inform the teacher that the student's name exists and ask whether to update the mark of that student.

b) Get the name of the top 3 highest student marks in the class.

Question 4.(2 points)

Price of each seat type:

Seat type	Price
First Class (F)	100
Business Class (B)	200 + std_id%50
Premium Class (P)	300
Economy Class (E)	400 + std_id%50

Loyalty customer discount:

Point	Discount(%)
<1000	0
1000-2000	5 + std_id%3
2000-10000	10+ std_id%4
>10000	20

a) Write a function (or method) to input the seat type and point of the customer and output the ticket money.

b) Allow new users to input multiple flights as a string and calculate the total money that person needs to pay for flights.

For example: 'E E P B F' -> 400 + 400 + 300 + 200 * (1-0.05) + 100 * (1-0.05) = 1385

----------END----------