Republic of the Philippines

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College of Informatics and Computing Sciences

MIDTERM EXAMINATION

BAT 405 –ANALYTICS APPLICATION

Information Technology Department

1st Semester AY 2024-2025

Name: _Sabundo, Regina Cheley P._____ **Score:** _____

Course/Section: _IT-BA-4103_____ **Date:** _____

Items	.5 Points	5 Points
Application 1 – 3	**If the answer is incorrect but has a Solution**	**If the Output is Correct and the Syntax is Correct**

Paste the Screen shot of your Answer

And Google Colab Link:

1. Categorizing Grades

You have a dictionary of students and their scores. Write a Python code snippet to create a new dictionary categorizing students as Pass (score >= 50) or Fail (score < 50).

students = {"Alice": 85, "Bob": 42, "Charlie": 78, "Diana": 30} # Create a dictionary `categories` where the key is the student's name # and the value is either "Pass" or "Fail".

Sample Output

```
{'Alice': 'Pass', 'Bob': 'Fail', 'Charlie': 'Pass', 'Diana': 'Fail'}
```

2. Count Word Frequencies

Write a Python function that takes a string and returns a dictionary with the frequency of each word in the string. For example:

text = "the quick brown fox jumps over the lazy dog the fox"

Output: {"the": 3, "quick": 1, "brown": 1, "fox": 2, "jumps": 1, "over": 1, "lazy": 1, "dog": 1}

3. Find the Most Common Element

Given a dictionary of items and their quantities:

inventory = {"apples": 5, "bananas": 8, "oranges": 3, "pears": 8}

Write a Python function to find the item(s) with the highest quantity. For example:

- Output: ["bananas", "pears"]

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1.

```
[1] students = {"Alice": 85, "Bob": 42, "Charlie": 78, "Diana": 30}

    grade_status = ['Pass', 'Fail']
    student_status = {}

    for i, j in students.items():
        if (j >= 50):
            student_status.update({i: grade_status[0]})
        else:
            student_status.update({j: grade_status[1]})


    print(student_status)
```

```
{'Alice': 'Pass', 42: 'Fail', 'Charlie': 'Pass', 30: 'Fail'}
```

2.

```
[2] count_frequency = {}
    text = "the quick brown fox jumps over the lazy dog the fox"

    convert_text_list = text.split()

    convert_text_set = set(convert_text_list)

    for word in convert_text_set:
        word_count = convert_text_list.count(word)
        count_frequency[word] = word_count

    print(count_frequency)
```

```
{'jumps': 1, 'the': 3, 'dog': 1, 'over': 1, 'brown': 1, 'fox': 2, 'quick': 1, 'lazy': 1}
```

3.

```
inventory = {"apples" : 5, "bananas" : 8, "oranges" : 3, "pears" : 8}
item_list = []

max = 0

for item, quantity in inventory.items():
    if quantity > max:
        max = quantity
        item_list = [item]
    elif quantity == max:
        item_list.append(item)

print(item_list)
```

```
['bananas', 'pears']
```

Link:
https://colab.research.google.com/drive/1TeyWRQE7mN2RzRf0cDMjo_3ydQMyd_P9?authuser=5