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Batch :23

Lab assignment 4.1 Q1:

Prompt:#Write a Python func on that classifies a given text as Spam or Not Spam Code:

```
def classify_text(text):    spam_keywords = ['win', 'free', 'prize', 'click', 'buy now',  
'limited me', 'offer', 'winner']    text_lower = text.lower()
```

```
    for keyword in spam_keywords:  
        if keyword in text_lower:  
            return "Spam"
```

```
    return "Not Spam" #
```

Example usage

```
texts = [  
    "Congratula ons! You have won a free lo ery cket."  
    "Hello, how are you doing today?",  
    "Limited me offer! Click here to buy now.",  
    "Don't forget our mee ng tomorrow."  
]
```

```
classifica ons = {text: classify_text(text) for text in texts}
```

```
print(classifica ons)
```

```
# Output: {'Congratula ons! You have won a free lo ery cket.': 'Spam', 'Hello, how are you  
doing today?': 'Not Spam', 'Limited me offer! Click here to buy now.': 'Spam', "Don't  
forget our mee ng tomorrow.": 'Not Spam'}
```

Output:

```
{'Congratula ons! You have won a free lo ery cket.Hello, how are you doing today?:  
'Spam',
```

'Limited me offer! Click here to buy now.': 'Spam', "Don't forget
our mee ng tomorrow.": 'Not Spam'}

Q2:prompt:

'''

i am happy today. output:happy

'''

```
#write a python program that detects the emo on of a sentence and emo  
ons=[happy,sad,angry,excited,nervous,neutral]    def    detect_emo  
on(sentence):
```

```
    emo ons = ['happy', 'sad', 'angry', 'excited', 'nervous', 'neutral']
```

```
sentence = sentence.lower()
```

```
    if 'happy' in sentence or 'joy' in sentence or 'pleased' in sentence:
```

```
    return 'happy'    elif 'sad' in sentence or 'unhappy' in sentence or
```

```
'sorrow' in sentence:        return 'sad'    elif 'angry' in sentence or
```

```
'mad' in sentence or 'furious' in sentence:
```

```
    return 'angry'    elif 'excited' in sentence or 'thrilled' in sentence or
```

```
'eager' in sentence:
```

```
    return 'excited'
```

```
    elif 'nervous' in sentence or 'anxious' in sentence or 'worried' in sentence:
```

```
        return 'nervous'
```

```
    else:
```

```
        return 'neutral'
```

```
# Example usage sentence = "i am
```

```
very sad"    emo on = detect_emo
```

```
on(sentence) print(emo on)
```

```
# Output: happy
```

Q3

Prompt:

'''

90–100 → A

80–89 → B 70–

79 → C

60–69 → D

Below 60 → F

'''

#write a python program that predict a student's grade based on marks. marks =

int(input("Enter the student's marks: ")) if 90 <= marks <= 100:

grade = 'A' elif 80

<= marks < 90:

grade = 'B' elif 70

<= marks < 80:

grade = 'C' elif 60

<= marks < 70:

grade = 'D' else:

grade = 'F'

print(f"The student's grade is: {grade}")

Output: Enter the student's marks: 88

The student's grade is: B

Q4:

Prompt:

'''

March → Mesha

April → Vrishabha

May → Mithuna

June → Karka

July → Simha

August → Kanya

September → Tula

October → Vrischika November

→ Dhanu

December → Makara

January → Kumbha

February → Meena

'''

#write a python program that predicts a persons zodiac sign based on month of birth def

zodiac_sign(month): zodiac_dict = {

 "March": "Mesha",

 "April": "Vrishabha",

 "May": "Mithuna",

 "June": "Karka",

 "July": "Simha",

 "August": "Kanya",

 "September": "Tula",

 "October": "Vrischika",

"November": "Dhanu",

 "December": "Makara",

 "January": "Kumbha",

 "February": "Meena"

}

 return zodiac_dict.get(month, "Invalid month") month_input

= input("Enter your month of birth: ") print(f"Your zodiac sign

is: {zodiac_sign(month_input)}")

output: Enter your month of birth: October

Your zodiac sign is: Vrischika

Q5:

Prompt:

'''

Read the marks from the user.

based on marks determine whether student passed or not.

handle invalid inputs

'''

Code: def

check_pass_fail(marks):

try:

marks = float(marks) if

marks < 0 or marks > 100:

raise ValueError("Marks should be between 0 and 100.")

if marks >= 40:

return "Passed"

else:

return "Failed"

except ValueError as e:

return str(e)

print("Enter the marks obtained by the student:")

user_input = input() result =

check_pass_fail(user_input) print(result) Output:

45 Passed

Q6.

Prompt:

'''

read the age of the user print he
can vote or not handle invalid
cases

'''

Code:

```
def can_vote(age):  
    try:  
        age = int(age)    if age < 0:        return  
        "Invalid age. Age cannot be nega ve."  
        elif age >= 18:  
            return "You are eligible to vote."  
        else:  
            return "You are not eligible to vote."  
    except ValueError:  
        return "Invalid input. Please enter a valid age." user_age  
= input("Enter your age: ") print(can_vote(user_age))
```

Output: Enter your age: 19

You are eligible to vote.

Q7:

Prompt:

'''

Generate a list that named names consists of some names from list names if the
name is palindrome add it to the list palindrome_names handle invalid cases

'''

```
def is_palindrome(name):
```

```
    # Check if the name is a palindrome
```

```
    return name == name[::-1]
```

```
def get_palindrome_names(names):
```

```
    palindrome_names = []
```

```
    for name in names:
```

```
        if not
```

```
            isinstance(name, str):
```

```
                print(f'Invalid name: {name}. Skipping.')
            continue
```

```
            if is_palindrome(name):
```

```
                palindrome_names.append(name)
```

```
    return palindrome_names
```

```
names = ["Anna", "Bob", "Cathy", "David",
```

```
"Eve", 123, None, "Madam"]
```

```
palindrome_names =
```

```
get_palindrome_names(names)
```

```
print("Palindrome names:",
```

```
palindrome_names)
```

```
Output:
```

```
[Anna,bob,David,eve]
```

```
Q8:
```

```
Prompt:
```

'''

```
generate a list of words named words_list
```

```
traverse the list and calculate the length of each word. if length is less
```

```
than 5 make a list and add as "short" to list if length
```

```
greater than 7 add as "long" to list
```

'''

```
Code: words_list = ["apple", "banana", "kiwi", "strawberry", "fig", "watermelon", "pear",
```

```
"grape"]
```

```
elif len(word) > 7:
```

```
length_category.append("long")
```

```
print(length_category)
```

Output: ['short', 'long', 'short', 'long', 'short']