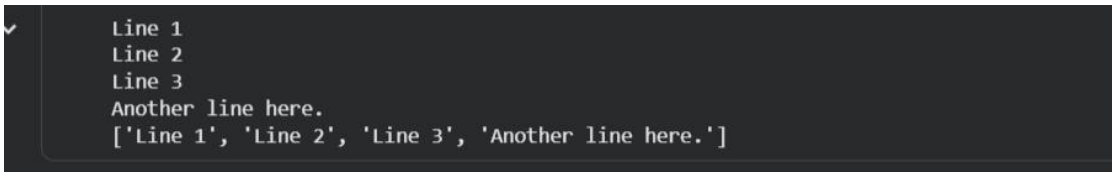
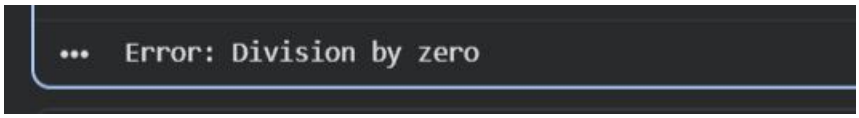
Q.1) Write a code to Read a file and append lines to a list.

```
file_content = "Line 1\nLine 2\nLine 3\nAnother line here."
with open("sample.txt", "w") as f:
    f.write(file_content)
print(file_content)
lines_list = []
with open("sample.txt", "r") as f:
    for line in f:
        lines_list.append(line.strip())
print(lines_list)
```



Q.2) Write a code to catch an Exception in python?

```
try:
  num = 10/0
  print(num)
except ZeroDivisionError:
  print("Error: Division by zero")
```



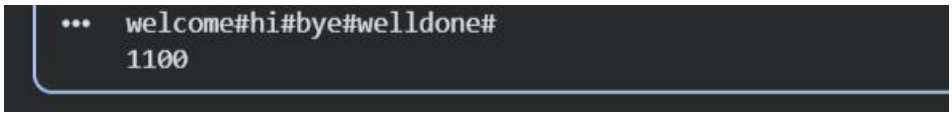
Q.3) Write a Python function that accepts a list containing strings and integers. Merge all string elements using # and add all integer elements.
e.g. input list is ['100', 'welcome', 'hi', '200', '300', 'bye', 'welldone', '500']
Output should be: welcome#hi#bye#welldone#
1100

```
def merge(my_list):
    string = ""
    total = 0

    for i in my_list:
        if i.isdigit():
            total += int(i)
        else:
            string += i + "#"

    print(string)
    print(total)

my_list2 = ['100', 'welcome', 'hi', '200', '300', 'bye', 'welldone', '500']
merge(my_list2)
```



Q.4) Write a script to sort a dictionary based on its values and find the sum of middle two values input_dict = {"x": 5, "y": 15, "z": 25}
Output: Sorted Dictionary: {'x': 5, 'y': 15, 'z': 25}
Sum of middle two values: 15 + 5 = 20
or
input_dict = {"x": 5, "y": 15, "z": 25,"p":12}
Output: Sorted Dictionary: {'x': 5, 'p': 12,'y': 15, 'z': 25}
Sum of middle two values: 12 + 15 = 27

```
data = {"x": 15, "y": 5, "z": 25,"b" : 2}

if len(data) == 0:
    print("Dictionary is empty. Cannot calculate sum.")
else:
    items = list(data.items())
    items.sort(key=lambda x: x[1])
    sorted_dict = dict(items)
    print("Sorted Dictionary:", sorted_dict)

    values = list(sorted_dict.values())
    n = len(values)

    if n == 1:
        result = values[0] * 2

    elif n % 2 != 0:
        mid = n // 2
        result = values[mid] * 2

    else:
        result = values[n//2 - 1] + values[n//2]

    print("Sum =", result)
```

```
Sorted Dictionary: {'b': 2, 'y': 5, 'x': 15, 'z': 25}
Sum = 20
```