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

```
with open("/content/sample_data/mnist_test.csv", "r") as file:
    lines_list = [line.strip() for line in file]
```

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

```
try:
    x = int(input("Enter a number: "))
    y = 10 / x
    print("Result:", y)
except ZeroDivisionError:
    print("Cannot divide by zero")
except ValueError:
    print("Invalid input! Please enter a number")

Enter a number: 0
Cannot divide 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(data):
    string_parts = []
    int_sum = 0

    for i in data:
        if i.isdigit():
            int_sum += int(i)
        else:
            string_parts.append(i)

    return "#".join(string_parts) + "#" + str(int_sum)

input_list = ['100', 'welcome', 'hi', '200', '300', 'bye', 'welldone', '500']
output = merge(input_list)
print(output)

welcome#hi#bye#welldone#1100
```

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

```
input_dict = {"x": 5, "y": 15, "z": 25, "p": 12}
```

```
    sorted_dict = dict(sorted(input_dict.items(), key=lambda item: item[1]))

    print(sorted_dict)

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

    if n % 2 == 0:
        mid1 = values[n // 2 - 1]
        mid2 = values[n // 2]
    else:
        mid1 = values[n // 2]
        mid2 = values[n // 2 - 1]

    print(f"Sum of middle two values: {mid1} + {mid2} = {mid1 + mid2}")
```
```
{'x': 5, 'p': 12, 'y': 15, 'z': 25}
Sum of middle two values: 12 + 15 = 27
```