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

```
lines_list = []
with open("data.txt","r") as file:
    lines_list = file.readlines()
print(lines_list)
lines_list.append("Data Analytics")
print(lines_list)
```

```
D:\User\Desktop\Python\.venv\Scripts\python.exe "D:\User\Desktop\Python\Day3 Test.py"
['Python\n', 'Java\n', 'C++\n', 'Data Science\n']
['Python\n', 'Java\n', 'C++\n', 'Data Science\n', 'Data Analytics']
```

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

```
try:
    a = int(input("Enter a number: "))
    b = 10/a
    print(b)
except Exception as e:
    print("Exception occured!", e)
```

```
D:\User\Desktop\Python\.venv\Scripts\python.exe "D:\User\Desktop\Python\Day3 Test.py"
Enter a number: 0
Exception occured! 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 process_list(data):
    string_result = ""
    int_sum = 0
```

```python
    for i in data:
        if i.isdigit():
            int_sum += int(i)
        else:
            string_result += i + "#"

    print(string_result)
    print(int_sum)

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

```
D:\User\Desktop\Python\.venv\Scripts\python.exe "D:\User\Desktop\Python\Day3 Test.py"
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


```python
input_dict = {"x": 5, "y": 15, "z": 25}
sorted_dict = dict(sorted(input_dict.items(), key=lambda item: item[1]))
print("Sorted Dictionary:", sorted_dict)
values = list(sorted_dict.values())
n = len(values)

if n % 2 == 0:
```

```python
        mid1 = values[n//2 - 1]
        mid2 = values[n//2]
    else:
        mid1 = values[n//2]
        mid2 = values[n//2 - 1]

print("Sum of middle two values:", mid1, "+", mid2, "=", mid1 + mid2)



input_dict = {"x": 5, "y": 15, "z": 25, "p": 12}
sorted_dict = dict(sorted(input_dict.items(), key=lambda item: item[1]))
print("Sorted Dictionary:", 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("Sum of middle two values:", mid1, "+", mid2, "=", mid1+mid2)
```

```
D:\User\Desktop\Python\.venv\Scripts\python.exe "D:\User\Desktop\Python\Day3 Test.py"
Sorted Dictionary: {'x': 5, 'y': 15, 'z': 25}
Sum of middle two values: 15 + 5 = 20
Sorted Dictionary: {'x': 5, 'p': 12, 'y': 15, 'z': 25}
Sum of middle two values: 12 + 15 = 27
```