

Experiment No: 3

Name: Aniket Balendra Tiwari

Roll No: 21143285

Program:

Optimal Merge Pattern:

```
#include <bits/stdc++.h>

using namespace std;

int minComputation(int size, int files[])
{
    priority_queue<int, vector<int>, greater<int> > pq;
    for (int i = 0; i < size; i++)
        pq.push(files[i]);
    int count = 0;
    while (pq.size() > 1) {
        int first_smallest = pq.top();
        pq.pop();
        int second_smallest = pq.top();
        pq.pop();
        int temp = first_smallest + second_smallest;
        count += temp;
        pq.push(temp);
    }
    return count;
}

int main()
{
    cout << "Name : Aniket Tiwari\n";
```

```

cout << "Roll No : 21143285\n";

int n;

cout << "Enter the no. of file : ";

cin >> n;

int files[50];

cout << "Enter the files : ";

for (int i = 0; i < n; i++)

    cin >> files[i];

cout << "\nMinimum Computations = " << minComputation(n, files);    return 0;

}

```

Output:

PROBLEMS OUTPUT TERMINAL JUPYTER DEBUG CONSOLE

```

Microsoft Windows [Version 10.0.22621.521]
(c) Microsoft Corporation. All rights reserved.

```

```

D:\Programming\College Experiments\TY 5 Sem\DAA Lab>cd "d:\Programming\
malMergePattern && "d:\Programming\College Experiments\TY 5 Sem\DAA Lab
Name : Aniket Tiwari
Roll No : 21143285
Enter the no. of file : 6
Enter the files : 10 3 9 4 2 42

```

```

Minimum Computations = 130
d:\Programming\College Experiments\TY 5 Sem\DAA Lab>

```