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Optimal Merge Pattern using Greedy approach

Program:

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

using namespace std;



void optimalCost(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;
```

```
    cout<<"Passwise output:"<<endl;
    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;
            cout<<first_smallest<<"+"<<second_smallest<<"="<<temp<<endl;

            pq.push(temp);
        }
        cout<<"Minimum computations to be done :"<<count;
}

int main()
{


        int n,i;
        cout<<"Enter no of files :"<<endl;
```

```
        cin>>n;
   int files[n];
        cout<<"Enter file sizes :"<<endl;
        for(i=0;i<n;i++){
        cin>>files[i];
        }

        optimalCost(n, files);

        return 0;
}
```

Output: