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//fifopage
#include<bits/stdc++.h>
using namespace std;
int main(){
    int n,m,i,j,k,hit=0;

    cout<<endl<<"how many frames- ";
    cin>>n;
    cout<<endl<<"enter strings numbr- ";
    cin>>m;
    vector<int> s(m);
    vector<int> hi(m);
    cout<<endl<<"enter strings- ";
    for(i=0; i<m;i++){
        cin>>s[i];
    }
    vector<vector< int>> a(n);
    for(i=0; i<n;i++){
        a[i]= vector<int>(m,-1);
    }
    map <int, int> mp;
    for(i=0; i<m;i++){
        vector<pair<int,int>> c;
        for(auto q: mp){
            c.push_back({q.second,q.first});
        }
        sort(c.begin(),c.end());
        bool hasrun= false;
        for(j=0; j<n;j++){
            if(a[j][i]== s[i]){
                hit++;
                hi[i]=1;
                mp[s[i]]++;
                hasrun=true;
                break;
            }
            if(a[j][i]== -1){
                for(k=i; k<m; k++)
                    a[j][k]= s[i];
                mp[s[i]]++;
                hasrun=true;
                break;
            }
        }
    }
}

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    }
    if(j==n||hasrun==false){
        for(j=0; j<n; j++){
            if(a[j][i]== c[c.size()-1].second){
                mp.erase(a[j][i]);
                for(k=i; k<m; k++){
                    a[j][k]= s[i];
                    mp[s[i]]++;
                    break;
                }
            }
        }
    }
    for(auto q:mp){
        if(q.first!= s[i]){
            mp[q.first]++;
        }
    }
}
cout<<" string ";
for(i=0;i<m;i++){
    cout<<s[i]<<" ";
}
cout<<"\n";
for(i=0;i<n;i++){
    cout<<" frame "<<i<<" ";
    for(j=0; j<m; j++){
        if(a[i][j]==-1)
            cout<<"E ";
        else
            cout<<a[i][j]<<" ";
    }
    cout<<endl;
}
for(i=0; i<m; i++){
    if(hi[i]== 0)
        cout<<" ";
    else
        cout<<hi[i]<<" ";
}
cout<<"\n";
cout<<"Hit "<<hit<<"\n"<<"page fault "<<m - hit<<"\n";
return 0;
}

```

