Sidharth

2K18/MC/114

Experiment 10

Aim: Write a program to implement Least Recently Used algorithm for page replacement.

Input:

Reference String - 7 0 1 2 0 3 0 4 2 3 0 3 2 1 2 0 1 7 0 1.

Number of frames - 3.

Code:

```
#include <bits/stdc++.h>
using namespace std;
int main(){
    int frame_size=3;
    int page_faults=0;
    vector<int> ref_string={7, 0, 1, 2, 0, 3, 0, 4, 2, 3, 0, 3, 2, 1,
2, 0, 1, 7, 0, 1};
    queue<int> q;
    unordered_set<int> check;
    for(auto it:ref_string){
        if(check.find(it)==check.end()){
            if(q.size()>=frame_size){
                check.erase(q.front());
                q.pop();
            }
            q.push(it);
            check.insert(it);
            page_faults++;
        }
    }
    cout<<"Total Number of page faults: "<<page_faults<<"\n";
}
```

Output:


sidharth001@LAPTOP-2SFRN76F: /mnt/c/Users/Sidharth/os
sidharth001@LAPTOP-2SFRN76F:
$ cd os
sidharth001@LAPTOP-2SFRN76F:
$ g++ exp.cpp && ./a.out
Total Number of page faults: 15
sidharth001@LAPTOP-2SFRN76F:
$