Implement ① Queue Using Stack &
② Stack Using Queue

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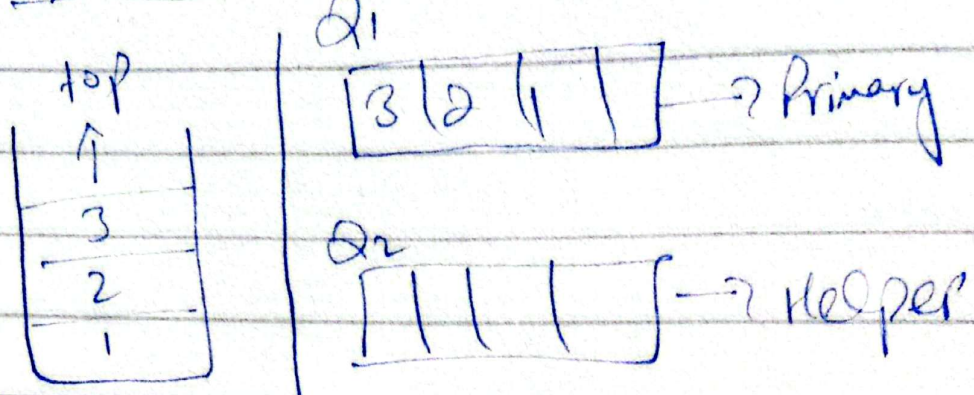
② Stack Using Queue
② Explaination :-



Visualization

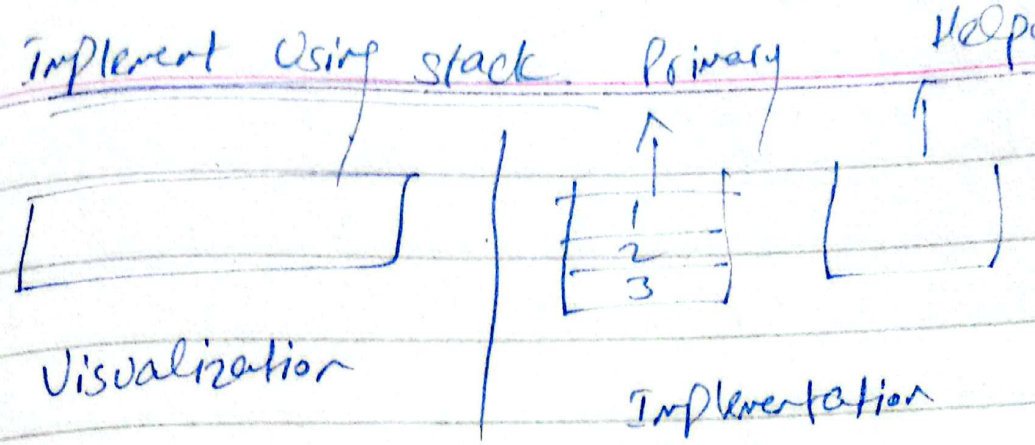
Push_back()
① Q1 elements copy → Q2
② Q1.push(data)
③ Q2 Elements copy → Q1

All the above steps are covered here

Real Implementation

```
class MyStack{
public
queue<int> q1
queue<int> q2
void push(int x){
while(!q1.empty()){
q2.push(q1.front())
q1.pop()
}q1.push(x)
while(!q2.empty()){
q1.push(q2.front())
}
```

Implement Using stack



Visualization

Implementation

push steps

① copy S1 → S2
② S1.push()
③ copy S2 → S1

pop steps

empty() → S1.empty()
pop → S1.pop()

② int pop(){
int ans = S1.top()
S1.pop()
return ans

③ int peek(){
return S1.top()
}

④ bool empty(){
return S1.empty();

front

front = S1.top()

MyQueue(){
stack<int> S1
stack<int> S2

① void push(int x){
while(!S1.empty()){
S2.push(S1.top())
S1.pop()
}
S1.push(x)
while(!S2.empty()){
S1.push(S2.pop())
}}