



ADMIN TIME COMPLEXITY

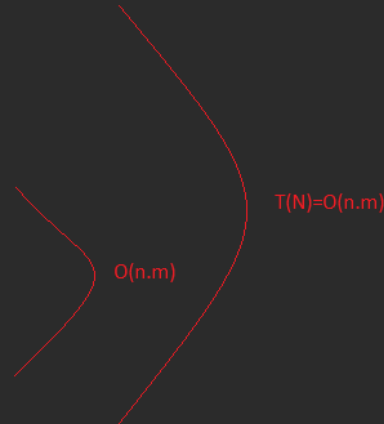


COSTUMER TIME COMPLEXITY


```

public boolean login_system(String email, String password) {
    email_ = new String(email);  $\Rightarrow$   $O(1)$ 
    password_ = new String(password);  $\Rightarrow$   $O(1)$ 
    if (costumer_data == null) {  $\Rightarrow$   $O(1)$ 
        System.out.println("PLEASE REGISTER");  $\Rightarrow$   $O(1)$ 
        return false;  $\Rightarrow$   $O(1)$ 
    }
    for (int i = 0; i < costumer_data.getSize(); i++) {  $\Rightarrow$   $getSize()=O(m)$ 
        if (costumer_data.get(i).email.equals(email_) && costumer_data.get(i).password.equals(password_)) {  $\Rightarrow$   $Equals=O(n)$ 
            System.out.println("LOG IN");  $\Rightarrow$   $O(1)$ 
            return true;  $\Rightarrow$   $O(1)$ 
        }
    }
    System.out.println("PLEASE REGISTER");  $\Rightarrow$   $O(1)$ 
    return false;  $\Rightarrow$   $O(1)$ 
}

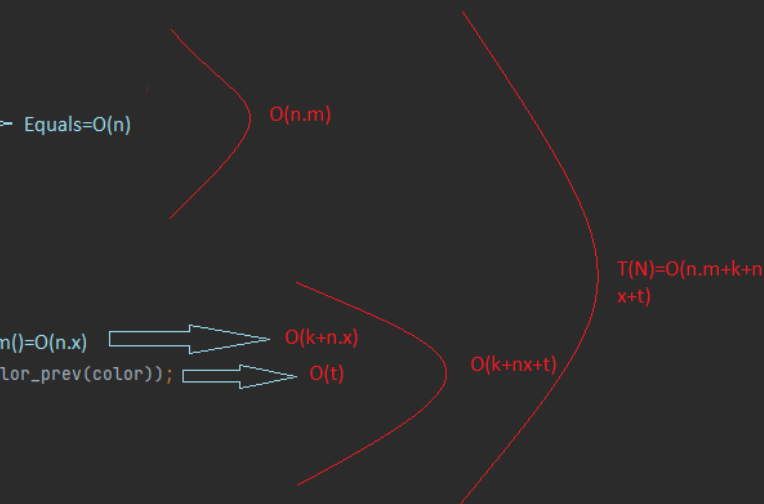
```



```

public void buy_product_online(int branch_number, String which_furniture, int color, char model_id, String address, String phone_number) {
    boolean flag = false;
    int costumer_id;
    for (costumer_id = 0; costumer_id < costumer_data.getSize(); costumer_id++) {  $\Rightarrow$   $getSize()=O(m)$ 
        if (costumer_data.get(costumer_id).email.equals(email_) && costumer_data.get(costumer_id).password.equals(password_)) {  $\Rightarrow$   $Equals=O(n)$ 
            flag = true;  $\Rightarrow$   $O(1)$ 
            break;  $\Rightarrow$   $O(1)$ 
        }
    }
    if (flag == true) {
        if (all_branchs.get(branch_number).data.remove_item(which_furniture, color, model_id) == true) {  $\Rightarrow$   $all\_branchs.get()=O(k)$   $\Rightarrow$   $data\_remove\_item()=O(n.x)$ 
            costumer_data.get(costumer_id).prev_view.add(index: 0, entry: "\nFURNITURE= "+which_furniture+"\t\tMODEL= "+model_id+"\t\tCOLOR= "+color_prev(color));  $\Rightarrow$   $O(t)$ 
            costumer_data.get(costumer_id).address=address;  $\Rightarrow$   $O(1)$ 
            costumer_data.get(costumer_id).address=phone_number;  $\Rightarrow$   $O(1)$ 
        }
    }
}

```





EMPLOYEE TIME COMPLEXITY

