Program 8 (Stack & Queue)

```
struct node {
        int data;
        struct node* next;
};
struct node* front;
struct node* rear

void push(struct node** top, int d) {
        struct node* temp, n;

        temp = (struct node*) malloc(sizeof
                                (node));
        temp->data = d;
        temp->next = *top;
        *top = temp;
        printf("%d pushed\n");
}

void pop() {
        struct node * temp;
        if (*top == NULL) {
                printf("Stack Underflow\n");
                return;
        }
        temp = *top;
```

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    *top = (*top)->next;
    free(temp);
}

void display(struct node *top){
    if(top==NULL){
        printf("No elements\n");
    }
    else{
        while(top!=NULL){
            printf("%d",top->data);
            top = top->next;
        }
        printf("\n");
}

void insert(int d){
    struct node *n;
    n=(struct node*)malloc(sizeof(node));
    if(n==NULL){
        printf("Queue Overflow\n");
        return;
    }
    n->data = d;
    if(front==NULL){
        front = n;
        rear = n;
        front->next = NULL;
```

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        rear->next==NULL;
    }
    else {
        rear->next = n;
        rear = n;
        rear->next=NULL;
    }
}

void delete() {
    struct node* temp;
    if (front == NULL) {
        printf("Queue Underflow\n");
        return;
    }
    temp = front;
    printf("%d deleted ");
    front = front->next;
    free(temp);
}

void display_queue () {
    struct node* temp;
    temp = front;
    if (front == NULL) {
        printf("Empty Queue");
        return;
    }
```

```
else
{
    while(temp != NULL){
        printf("%d", temp->data);
        temp = temp->next;
    }
    print("\n");
}
}
```