

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
struct Node {  
    int data;  
    struct Node* next;  
};
```

```
struct Node* head = NULL;
```

```
void push(int value) {  
    struct Node* newNode = (struct Node*)malloc(sizeof(struct Node));  
    newNode->data = value;  
    newNode->next = head;  
    head = newNode;  
}
```

```
int pop() {  
    if (head == NULL) return -1;  
    struct Node* temp = head;  
    int val = temp->data;  
    head = head->next;  
    free(temp);  
    return val;  
}
```

```
void enqueue(int value) {  
    struct Node* newNode = (struct Node*)malloc(sizeof(struct Node));  
    newNode->data = value;  
    newNode->next = NULL;
```

```
if (head == NULL) {  
    head = newNode;  
    return;  
}
```

```
struct Node* temp = head;  
while (temp->next != NULL)  
    temp = temp->next;  
temp->next = newNode;  
}
```

```
int dequeue() {  
    if (head == NULL) return -1;  
    struct Node* temp = head;  
    int val = temp->data;  
    head = head->next;  
    free(temp);  
    return val;  
}
```

```
void display() {  
    struct Node* temp = head;  
    while (temp != NULL) {  
        printf("%d -> ", temp->data);  
        temp = temp->next;  
    }  
    printf("NULL\n");  
}
```

```
int main() {  
    int choice, value;
```

```
while (1) {  
    printf("\n1. Push (Stack)\n2. Pop (Stack)\n3. Enqueue (Queue)\n4. Dequeue (Queue)\n5.  
Display\n6. Exit\n");  
    scanf("%d", &choice);  
  
    switch (choice) {  
        case 1:  
            printf("Enter value:\n");  
            scanf("%d", &value);  
            push(value);  
            break;  
  
        case 2:  
            value = pop();  
            if (value == -1) printf("Stack Empty\n");  
            else printf("Popped: %d\n", value);  
            break;  
  
        case 3:  
            printf("Enter value:\n");  
            scanf("%d", &value);  
            enqueue(value);  
            break;  
  
        case 4:  
            value = dequeue();  
            if (value == -1) printf("Queue Empty\n");  
            else printf("Dequeued: %d\n", value);  
            break;  
    }  
}
```

case 5:

display();

break;

case 6:

return 0;

}

}

}

OUTPUT :

```
1. Push (Stack)
2. Pop (Stack)
3. Enqueue (Queue)
4. Dequeue (Queue)
5. Display
6. Exit
1
Enter value:
12

1. Push (Stack)
2. Pop (Stack)
3. Enqueue (Queue)
4. Dequeue (Queue)
5. Display
6. Exit
5
12 -> NULL

1. Push (Stack)
2. Pop (Stack)
3. Enqueue (Queue)
4. Dequeue (Queue)
5. Display
6. Exit
3
Enter value:
10

1. Push (Stack)
2. Pop (Stack)
3. Enqueue (Queue)
4. Dequeue (Queue)
5. Display
6. Exit
3
Enter value:
12

1. Push (Stack)
2. Pop (Stack)
3. Enqueue (Queue)
4. Dequeue (Queue)
5. Display
6. Exit
5
12 -> 10 -> 12 -> NULL
```