

A.

sort() of

```
struct node * ptr = head  
struct node * temp = NULL
```

```
int i
```

```
if (head == NULL) return  
else {
```

```
    while (ptr != NULL) {
```

```
        temp = ptr -> next
```

```
        while (temp != NULL) {
```

```
            if (ptr -> data > temp -> data) {
```

```
                i = ptr -> data
```

```
                ptr -> data = temp -> data
```

```
                temp -> data = i
```

```
            }
```

```
            temp = temp -> next;
```

```
        }
```

```
        ptr = ptr -> next;
```

```
    }
```

```
}
```

```
}
```

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reverse()

```
struct node * prev = NULL
```

```
struct node * next = NULL
```

```
struct node * ptr = ^head
```

```
while (ptr != NULL)
```

```
next = ptr → next
```

```
ptr → next = prev
```

```
prev = ptr
```

```
ptr = next
```

```
}
```

```
* head = prev
```

```
}
```

concatenate ( struct node \* ptr1, struct node \* ptr2 )

```
if (ptr1 != NULL && ptr2 != NULL)
```

```
if (ptr1 → next == NULL)
```

```
ptr1 → next = ptr2
```

```
else
```

```
concatenate (ptr1 → next, ptr2)
```

```
}
```

```
else { print "Either ptr1 or ptr2 is NULL" }
```

```
}
```

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```
struct node * concat (struct node * start1, struct node * start2)
```

```
{
```

```
    struct node * ptr
```

```
    if (start1 == NULL) { start1 = start2
```

```
        return start1;
```

```
    if (start2 == NULL) return start1;
```

```
    ptr = start1;
```

```
    while (ptr->next != NULL)
```

```
        ptr = ptr->next;
```

```
    ptr->next = start2;
```

```
    return start1;
```

```
}
```

```
push (struct node ** head, int new_data)
```

```
{
```

```
    struct node * new_node = (struct node *)
```

```
        malloc (sizeof (struct node));
```

```
    new_node->data = new_data;
```

```
    new_node->next = *head;
```

```
    *head = new_node;
```

```
pop () {
```

```
    struct node * ptr
```

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```
if (head == NULL)
    printf("List is Empty");
```

```
else {
```

```
    ptr = head
```

```
    head = ptr -> next
```

```
    free (ptr)
```

```
}
```

```
}
```

```
Enqueue(item) {
```

```
    struct node * ptr, * temp
```

```
    ptr = (struct node*) malloc (sizeof(struct node));
```

```
    ptr -> data = item
```

```
    ptr -> next = NULL
```

```
    if (head == NULL)
```

```
    {
```

```
        head = ptr
```

```
    }
```

```
    else {
```

```
        temp = head
```

```
        while (temp -> next != NULL)
```

```
        {
```

```
            temp = temp -> next
```

```
        }
        temp -> next = ptr
    }
```

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Dequeue()

```
if (head == NULL)
```

```
{
    print "List is Empty"
}
```

```
else
```

```
{
```

```
    ptr = head;
```

```
    head = ptr->next;
```

```
    free(ptr);
}
```

```
}
```