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////Created By Ritwik Chandra Pandey on 24/02/21
////183215
///Josephus Problem using Circular Linked List
```

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

```
struct list {
    char name[10];
    struct list *next;
};
```

```
typedef struct list *node;
node first = NULL;
```

```
node createNode() {
    node temp;
    temp = (node) malloc(sizeof(struct list));
    temp -> next = NULL;
    return temp;
}
```

```
void display() {
    printf("The original soldiers list is -->");
    node q = first;
```

```
    do {
        printf(" %s --> ", q -> name);
        q = q -> next;
    } while (q != first);
    printf("NULL\n");
}
```

```
node addNode(node last, char sname[]) {
```

```

node temp;
temp = createNode();
strcpy(temp -> name, sname);
if (first == NULL) {
    first = temp;
} else {
    last -> next = temp;
}
temp -> next = first;
return temp;
}
void delete(node last) {
    int n, i;
    printf("Enter a value to eliminate the soldier : ");
    scanf("%d", &n);
    while(first != first -> next) {
        for (i = 1; i < n; i++) {
            last = first;
            first = first -> next;
        }
        last -> next = first -> next;
        printf("The eliminated soldier is --> %s\n", first -> name);
        free(first);
        first = last -> next;
    }
    printf("The escaped soldier is --> %s\n", first -> name);
}

```

```

int main() {
    node last = first;
    char sName[10];
    printf("Enter name of the soldier (Enter 'end' to stop) : ");
    scanf("%s", sName);

```

```
if(strcmp(sName,"end")==0){  
    printf("No name given\n");  
}else{  
    while(strcmp(sName, "end") != 0) {  
        last = addNode(last, sName);  
        printf("Enter name of the soldier : ");  
        scanf("%s", sName);  
    }  
  
    display();  
    delete(last);}  
}
```