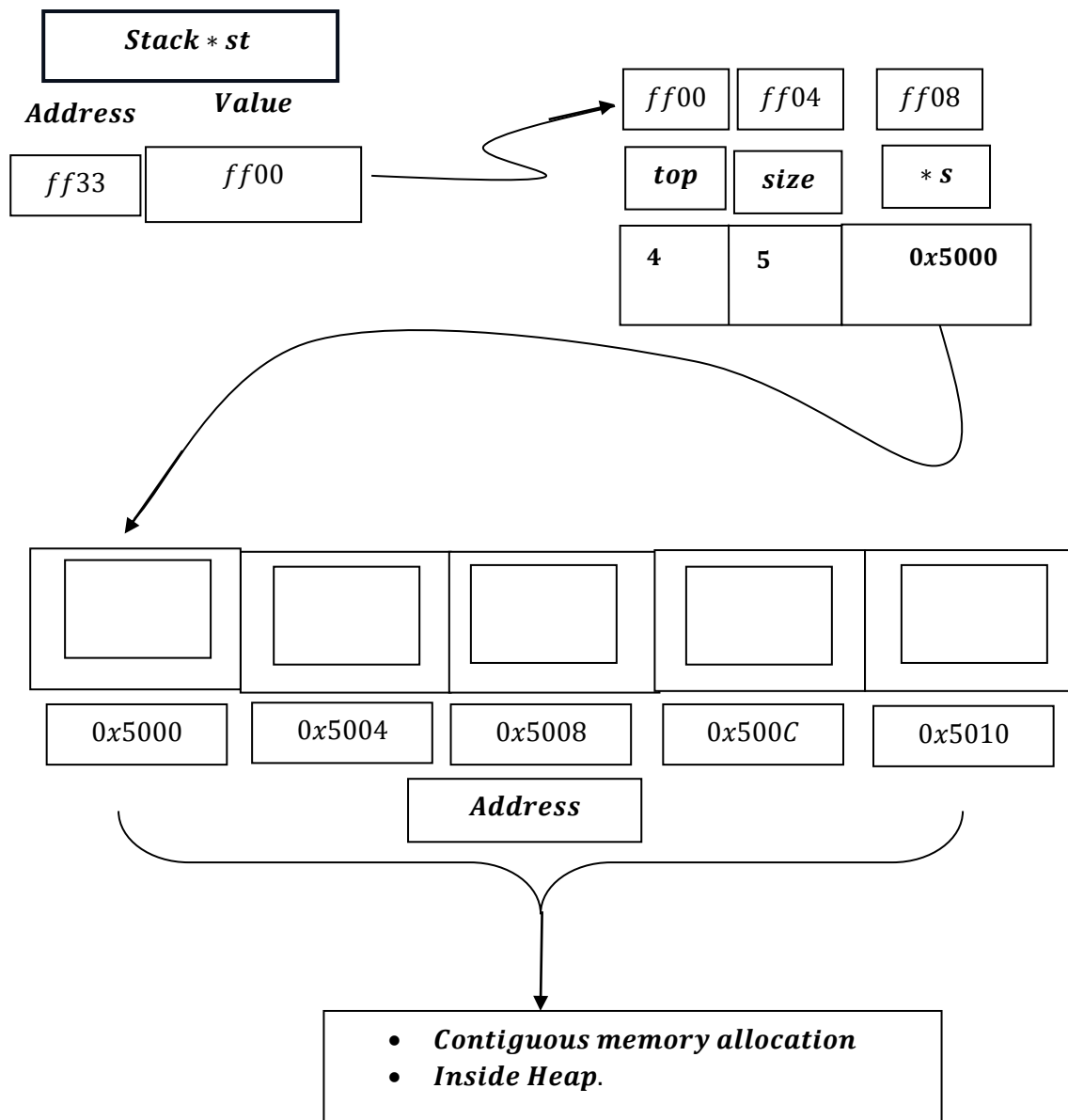


Stack Mechanism Discussion with Time Complexity

8.Freeing the memory

```
case 8:  
    cout << "Exiting...." << endl;  
    free(stck.s);  
    stck.s = NULL;  
    exit(0);  
    break;
```

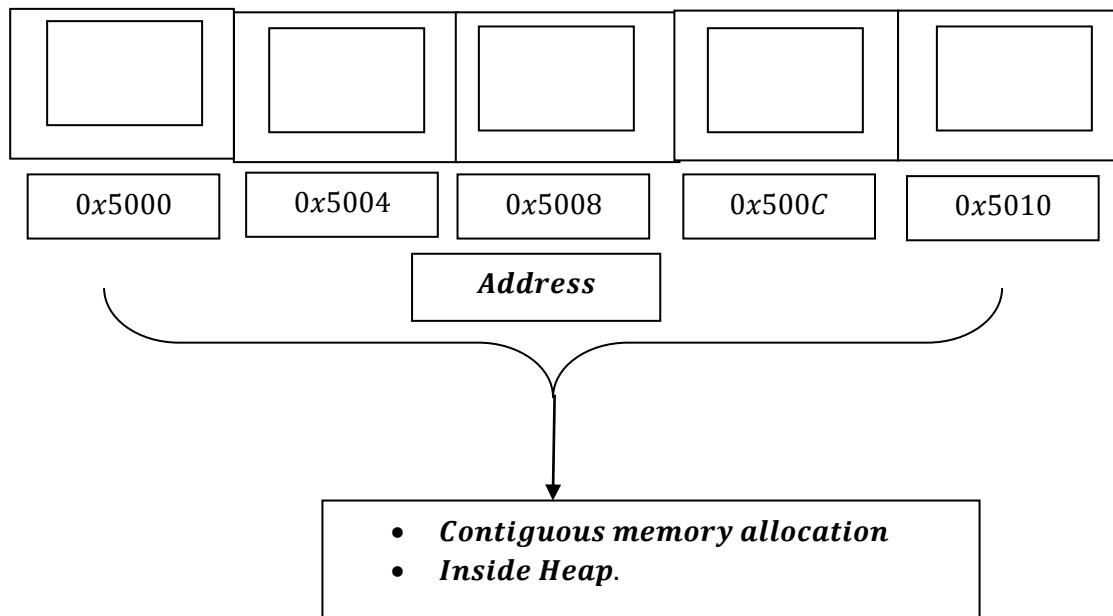
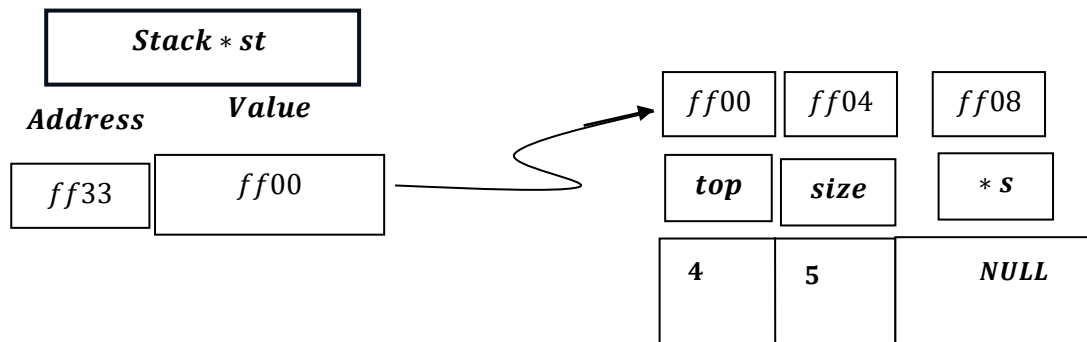
what does the `free(stck.s)` will do :



It will free the allocated space by stck.s i.e. allocated heap memory but s pointer still holding base address of the earlier allocated memory.

Hence:

```
stck.s = NULL;
```



Time Complexity

```
cout << "Exiting...." << endl;  
free(stck.s);  
stck.s = NULL;  
exit(0);
```

free (stck.s) or freeing the memory will take constant time `c` hence : $O(1)$.

Assigning Stck.s = NULL also take constant time `c` hence : $O(1)$.

\therefore Total Time Complexity: $O(1) + O(1) = O(1)$.
