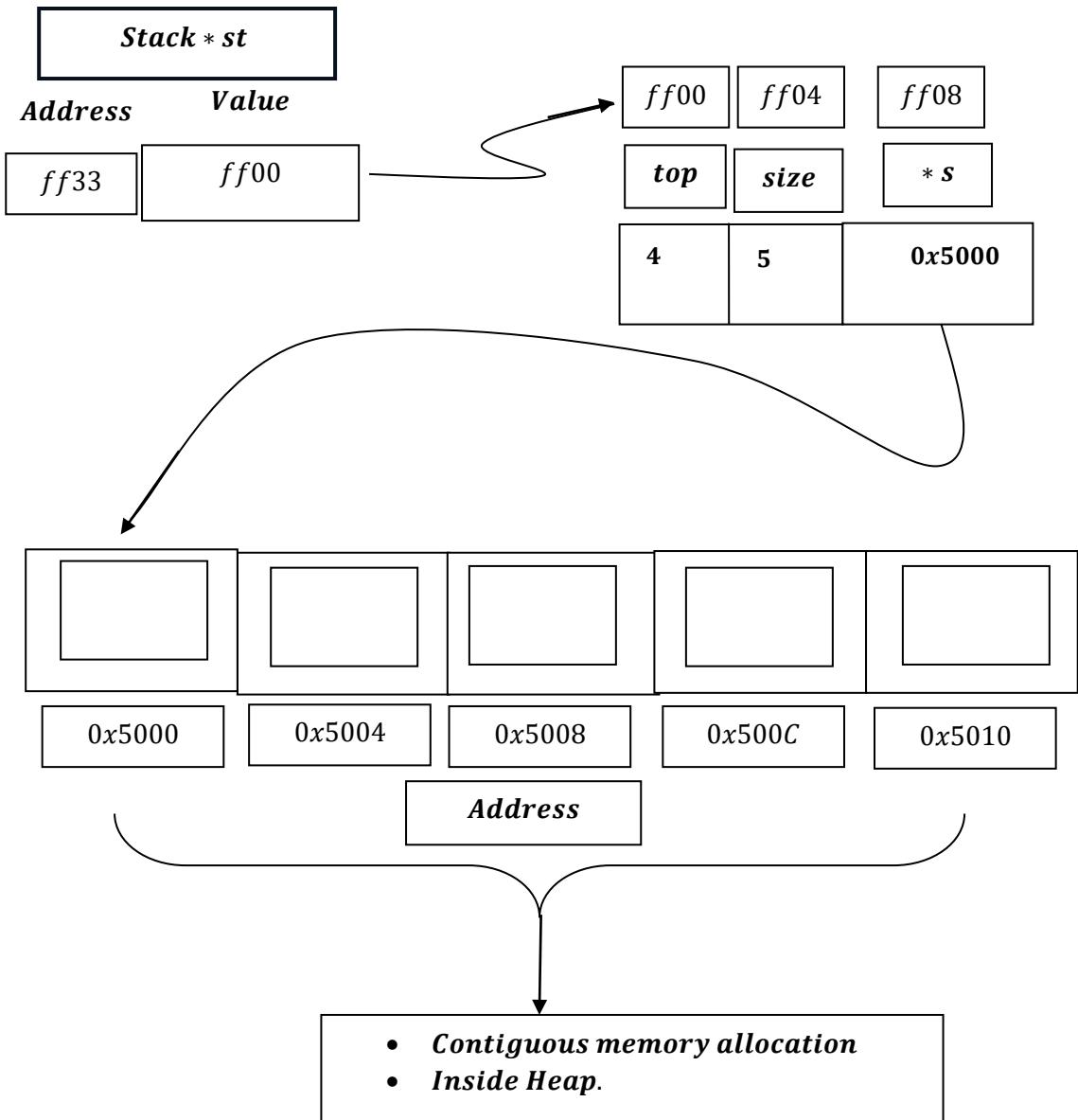


## ***Stack Mechanism Discussion with Time Complexity***

### ***8. Freeing the memory***

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

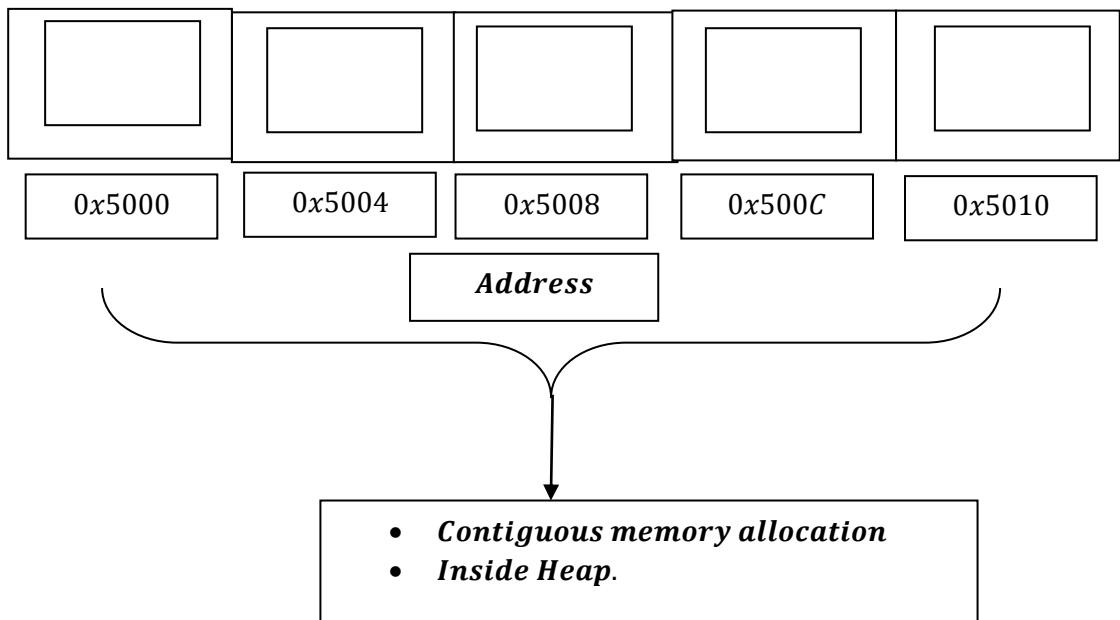
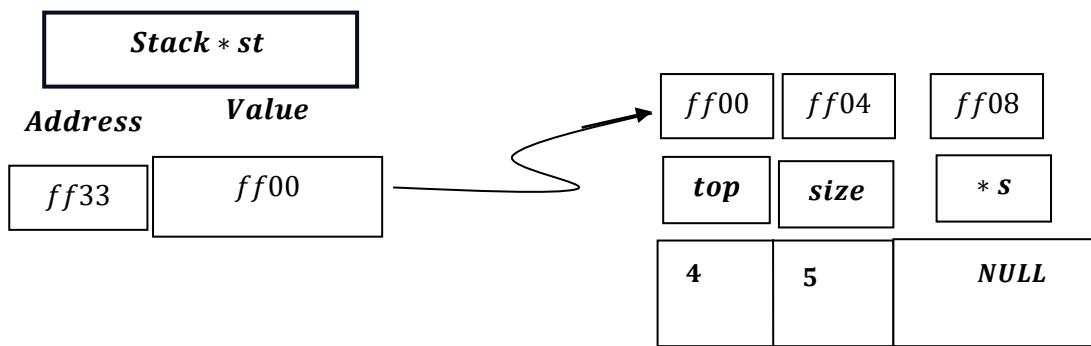
***what does the free(stck.s) will do :***



*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).*

*∴ Total Time Complexity: O(1) + O(1) = O(1).*

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