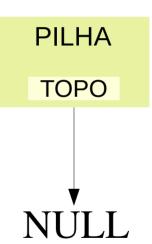
Exercício 5 – 0.Criar pilha

Class pilha: Class noh:

Int tamanho; noh* topo;

Int dado noh* próximo;



push(valor):

```
novo ← criar_noh(valor);

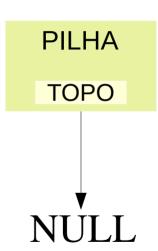
novo.proximo ← topo;

topo ← novo;

tamanho++;

Tamanho = 0
```

5



push(valor):

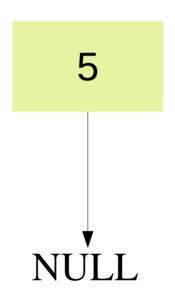
```
novo ← criar_noh(valor);

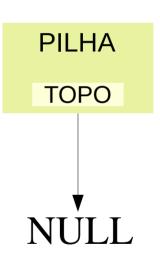
novo.proximo ← topo;

topo ← novo;

tamanho++;

Tamanho = 0
```





push(valor):

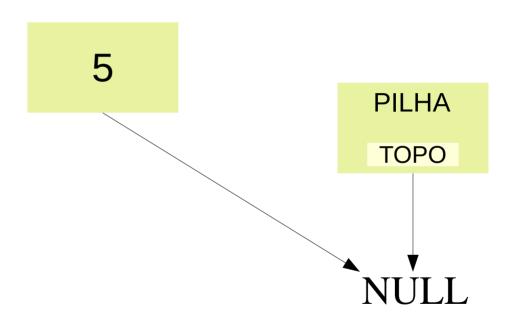
```
novo ← criar_noh(valor);

novo.proximo ← topo;

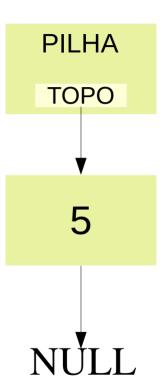
topo ← novo;

tamanho++;

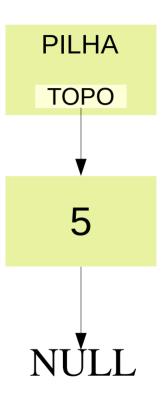
Tamanho = 0
```



```
push(valor):
novo ← criar_noh(valor);
novo.proximo ← topo;
topo ← novo;
tamanho++;
Tamanho = 0
```



```
push(valor):
novo ← criar_noh(valor);
novo.proximo ← topo;
topo ← novo;
tamanho++;
Tamanho = 1
```



```
push(valor):
novo ← criar_noh(valor);
novo.proximo ← topo;
topo ← novo;
tamanho++;
```

Tamanho = 1

PILHA TOPO

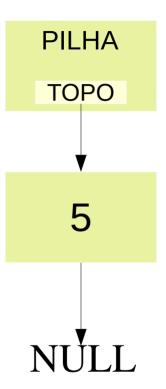
```
push(valor):
novo ← criar_noh(valor);

novo.proximo ← topo;

topo ← novo;

tamanho++;

Tamanho = 1
```



```
PILHA
push(valor):
                                                                                       TOPO
novo \leftarrow criar\_noh(valor);
novo.proximo ← topo;
topo \leftarrow novo;
tamanho++;
 Tamanho = 1
```

```
push(valor):
```

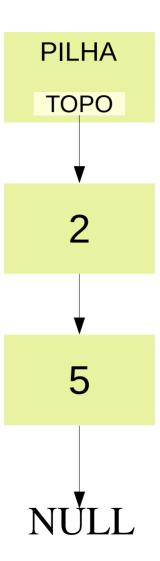
```
novo ← criar_noh(valor);

novo.proximo ← topo;

topo ← novo;

tamanho++;

Tamanho = 1
```



```
push(valor):
```

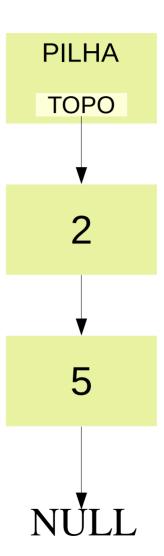
```
novo ← criar_noh(valor);

novo.proximo ← topo;

topo ← novo;

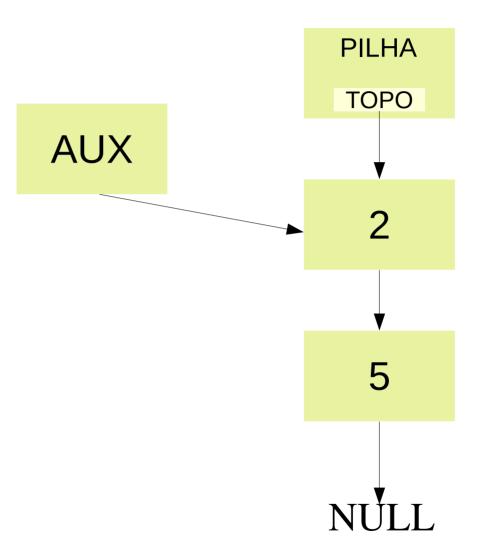
tamanho++;

Tamanho = 2
```



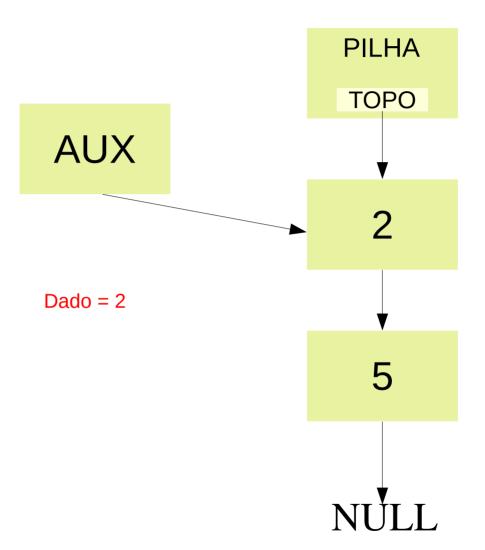
pop():

```
aux ← topo;
dado ← aux.valor;
topo ← aux.proximo;
apagar(aux);
tamanho--;
```



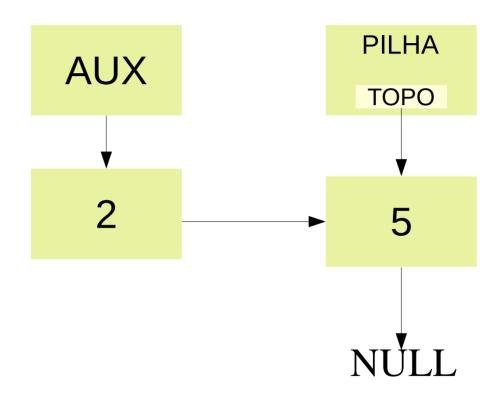
```
pop():
```

```
aux ← topo;
dado ← aux.valor;
topo ← aux.proximo;
apagar(aux);
tamanho--;
```



```
pop():
```

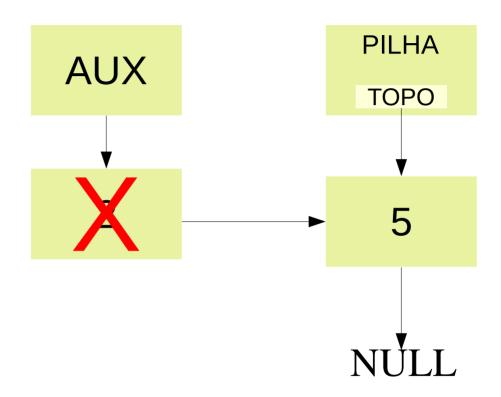
```
aux ← topo;
dado ← aux.valor;
topo ← aux.proximo;
apagar(aux);
tamanho--;
Tamanho = 2
```



Dado = 2

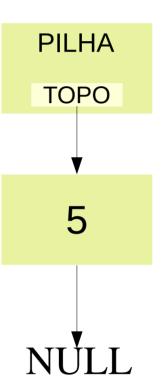
```
pop():
```

```
aux ← topo;
dado ← aux.valor;
topo ← aux.proximo;
apagar(aux);
tamanho--;
Tamanho = 2
```



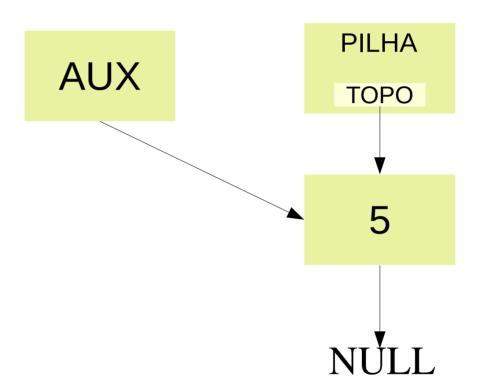
Dado = 2

```
pop():
aux ← topo;
dado ← aux.valor;
topo ← aux.proximo;
apagar(aux);
tamanho--;
Tamanho = 1
```

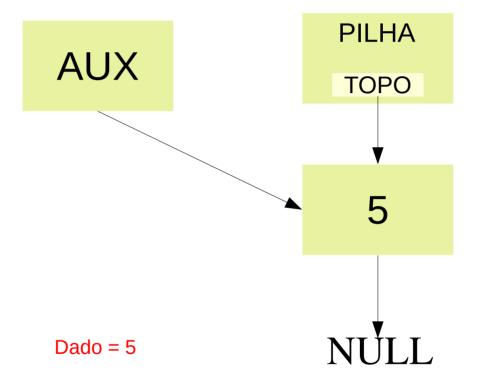


```
pop():
```

```
aux ← topo;
dado ← aux.valor;
topo ← aux.proximo;
apagar(aux);
tamanho--;
Tamanho = 1
```

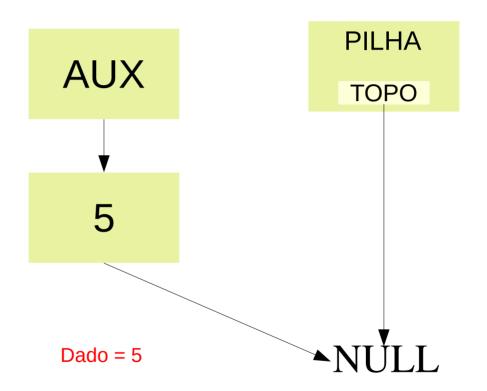


```
pop():
aux ← topo;
dado ← aux.valor;
topo ← aux.proximo;
apagar(aux);
tamanho--;
```



```
<u>pop():</u>
```

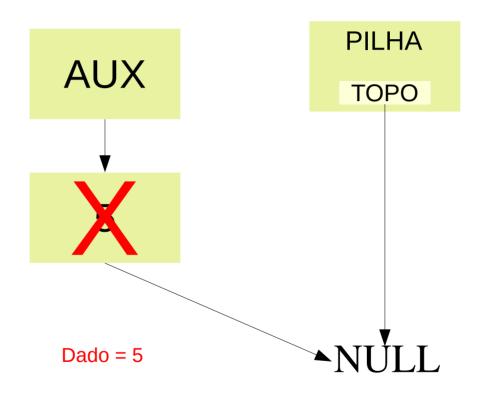
```
aux ← topo;
dado ← aux.valor;
topo ← aux.proximo;
apagar(aux);
tamanho--;
```



```
pop():
aux ← topo;
dado ← aux.valor;
```

topo ← aux.proximo;

apagar(aux);
tamanho--;



```
pop():
aux ← topo;
dado ← aux.valor;
topo ← aux.proximo;
apagar(aux);
tamanho--;
Tamanho = 0
```



push(valor):

```
novo ← criar_noh(valor);

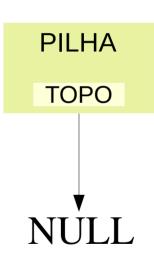
novo.proximo ← topo;

topo ← novo;

tamanho++;

Tamanho = 0
```

5



push(valor):

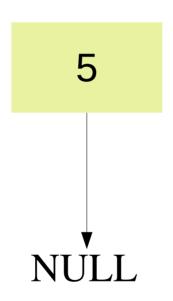
```
novo ← criar_noh(valor);

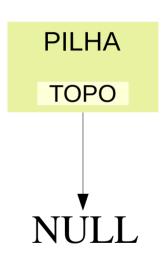
novo.proximo ← topo;

topo ← novo;

tamanho++;

Tamanho = 0
```





push(valor):

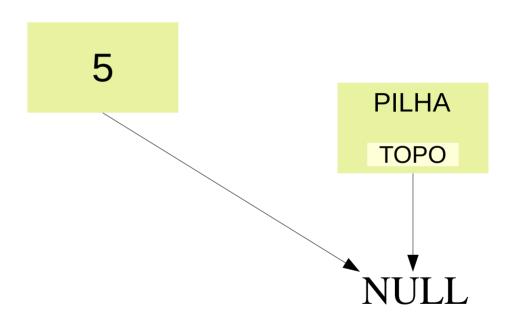
```
novo ← criar_noh(valor);

novo.proximo ← topo;

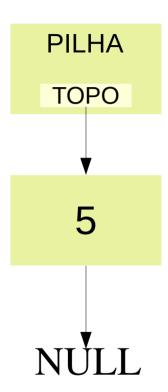
topo ← novo;

tamanho++;

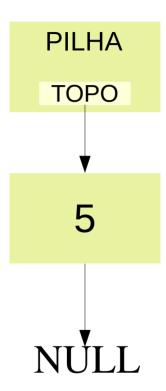
Tamanho = 0
```



```
push(valor):
novo ← criar_noh(valor);
novo.proximo ← topo;
topo ← novo;
tamanho++;
Tamanho = 0
```



```
push(valor):
novo ← criar_noh(valor);
novo.proximo ← topo;
topo ← novo;
tamanho++;
Tamanho = 1
```



```
push(valor):
```

 $novo \leftarrow criar_noh(valor);$

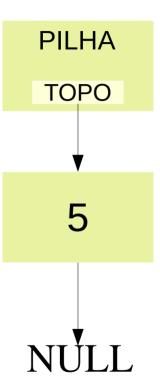
novo.proximo \leftarrow topo;

topo \leftarrow novo;

tamanho++;

Tamanho = 1

11



```
push(valor):
novo ← criar_noh(valor);

novo.proximo ← topo;

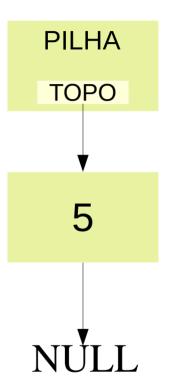
topo ← novo;

tamanho++;

Tamanho = 1

11

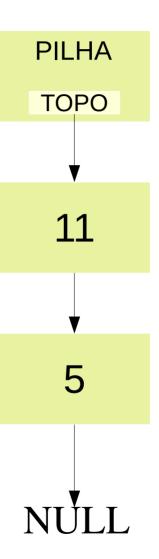
NULL
```



```
PILHA
push(valor):
                                                                                       TOPO
novo \leftarrow criar\_noh(valor);
novo.proximo ← topo;
topo \leftarrow novo;
tamanho++;
 Tamanho = 1
```

```
push(valor):
```

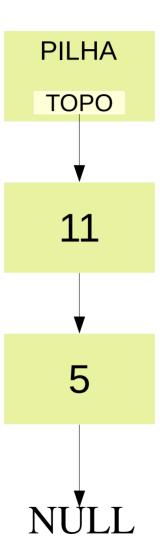
```
novo ← criar_noh(valor);
novo.proximo ← topo;
topo ← novo;
tamanho++;
Tamanho = 1
```



```
push(valor):
```

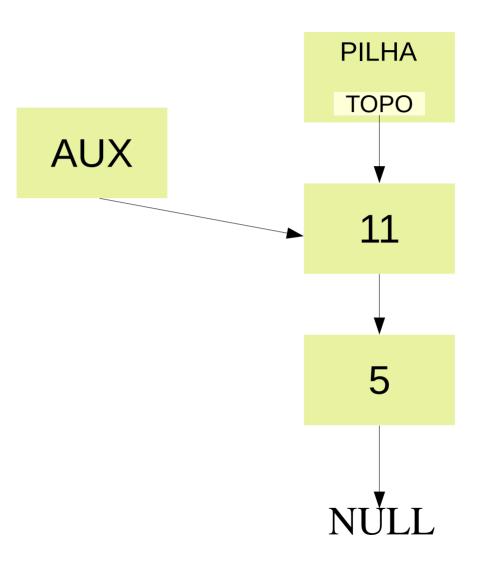
```
novo ← criar_noh(valor);
novo.proximo ← topo;
topo ← novo;
tamanho++;

Tamanho = 2
```



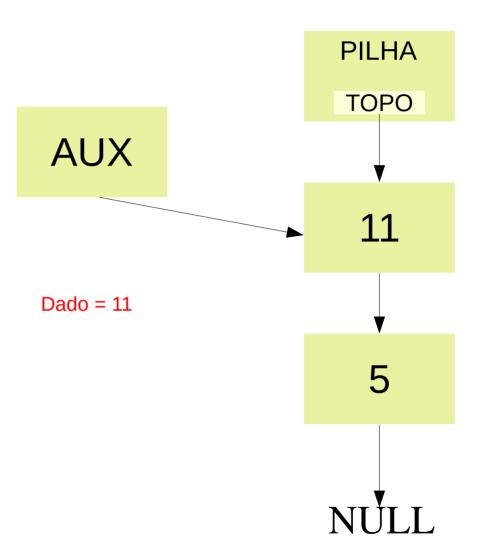
pop():

```
aux ← topo;
dado ← aux.valor;
topo ← aux.proximo;
apagar(aux);
tamanho--;
```



```
pop():
```

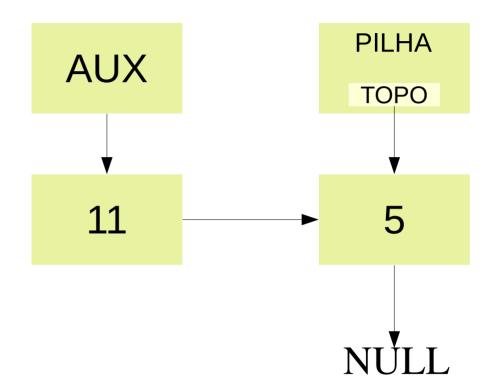
```
aux ← topo;
dado ← aux.valor;
topo ← aux.proximo;
apagar(aux);
tamanho--;
```



```
pop():
```

```
aux ← topo;
dado ← aux.valor;
topo ← aux.proximo;
apagar(aux);
tamanho--;
```

Tamanho = 2

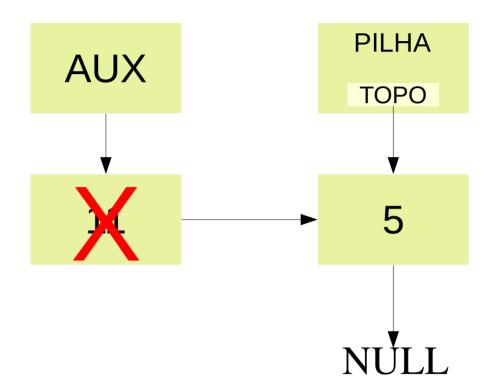


Dado = 11

pop():

```
aux ← topo;
dado ← aux.valor;
topo ← aux.proximo;
apagar(aux);
tamanho--;
```

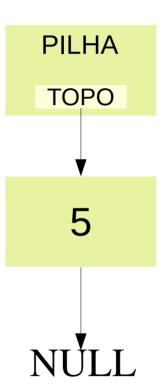
Tamanho = 2



Dado = 11

```
pop():
```

```
aux ← topo;
dado ← aux.valor;
topo ← aux.proximo;
apagar(aux);
tamanho--;
```



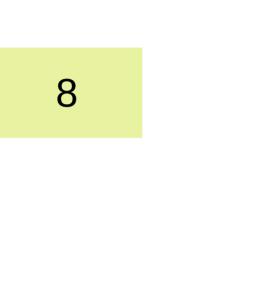
push(valor):

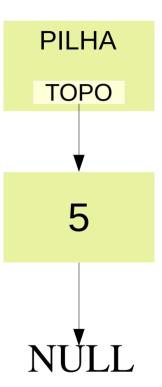
 $novo \leftarrow criar_noh(valor);$

novo.proximo ← topo;

topo \leftarrow novo;

tamanho++;





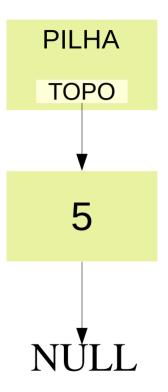
```
push(valor):
novo ← criar_noh(valor);

novo.proximo ← topo;

topo ← novo;

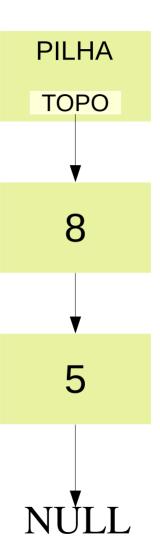
tamanho++;

Tamanho = 1
```



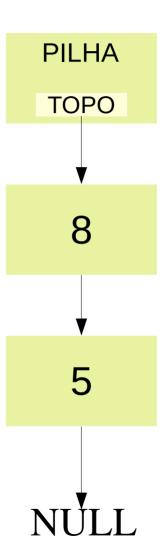
```
PILHA
push(valor):
                                                                                      TOPO
novo \leftarrow criar noh(valor);
novo.proximo ← topo;
topo \leftarrow novo;
tamanho++;
 Tamanho = 1
```

```
push(valor):
novo ← criar_noh(valor);
novo.proximo ← topo;
topo ← novo;
tamanho++;
Tamanho = 1
```



```
push(valor):
```

```
novo ← criar_noh(valor);
novo.proximo ← topo;
topo ← novo;
tamanho++;
Tamanho = 2
```



10

```
push(valor):
```

novo ← criar_noh(valor);

novo.proximo ← topo;

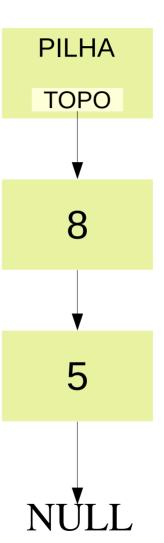
topo \leftarrow novo;

tamanho++;

Tamanho = 2

PILHA TOPO

```
push(valor):
                                                         10
novo \leftarrow criar noh(valor);
novo.proximo \leftarrow topo;
topo \leftarrow novo;
tamanho++;
 Tamanho = 2
```



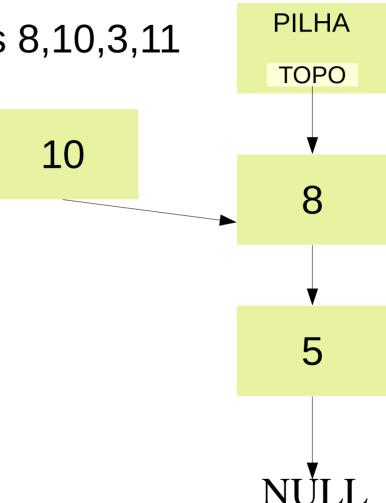
```
push(valor):
```

```
novo \leftarrow criar\_noh(valor);
```

 $novo.proximo \leftarrow topo;$

topo \leftarrow novo;

tamanho++;



```
push(valor):
```

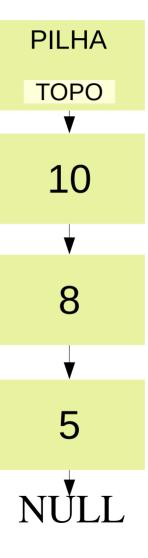
```
novo ← criar_noh(valor);

novo.proximo ← topo;

topo ← novo;

tamanho++;

Tamanho = 2
```



```
push(valor):
```

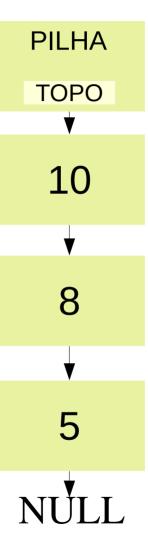
```
novo ← criar_noh(valor);

novo.proximo ← topo;

topo ← novo;

tamanho++;

Tamanho = 3
```



```
push(valor):
novo ← criar_noh(valor);
novo.proximo ← topo;
```

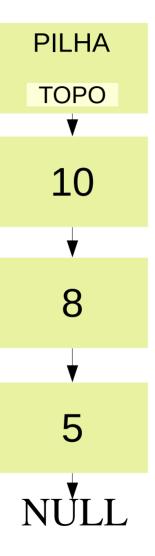
topo ← novo;

tamanho++;

Tamanho = 3

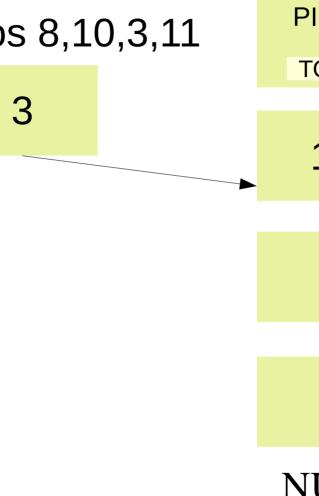
PILHA TOPO 10

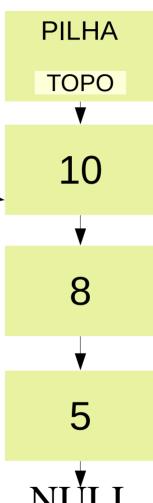
```
push(valor):
novo \leftarrow criar noh(valor);
novo.proximo \leftarrow topo;
topo \leftarrow novo;
tamanho++;
 Tamanho = 3
```



```
push(valor):
novo ← criar_noh(valor);
novo.proximo ← topo;
topo ← novo;
```

tamanho++;

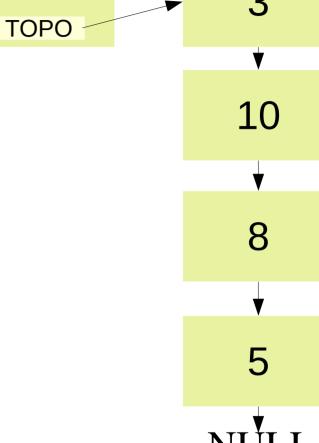




PILHA

push(valor):

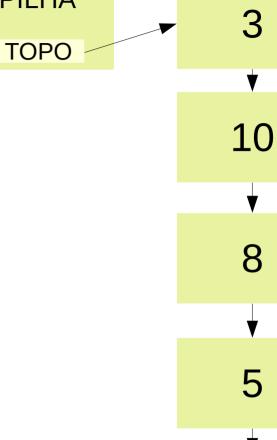
```
novo \leftarrow criar noh(valor);
novo.proximo \leftarrow topo;
topo \leftarrow novo;
tamanho++;
 Tamanho = 3
```



```
PILHA
```

push(valor):

```
novo \leftarrow criar noh(valor);
novo.proximo \leftarrow topo;
topo \leftarrow novo;
tamanho++;
 Tamanho = 4
```



PILHA

TOPO

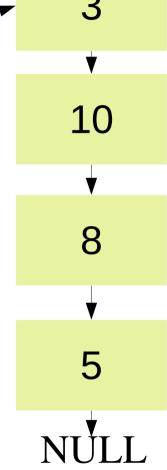
push(valor):

```
novo \leftarrow criar noh(valor);
```

novo.proximo \leftarrow topo;

topo \leftarrow novo;

tamanho++;



PILHA

TOPO

3

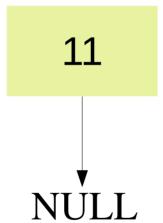
push(valor):

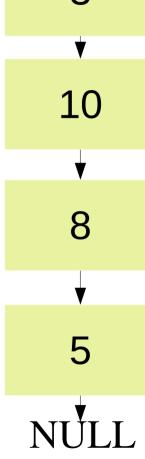
novo ← criar_noh(valor);

novo.proximo \leftarrow topo;

topo \leftarrow novo;

tamanho++;





PILHA

TOPO

3

10

push(valor):

```
novo \leftarrow criar\_noh(valor);
```

novo.proximo ← topo;

topo \leftarrow novo;

tamanho++;

Tamanho = 4

11

8

5

NULL

11

<u>პ</u>

push(valor):

```
novo \leftarrow criar\_noh(valor);
```

novo.proximo ← topo;

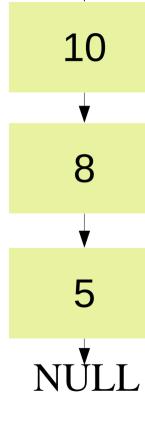
topo \leftarrow novo;

tamanho++;

Tamanho = 4

PILHA

TOPO



11

11

push(valor):

```
novo ← criar_noh(valor);
```

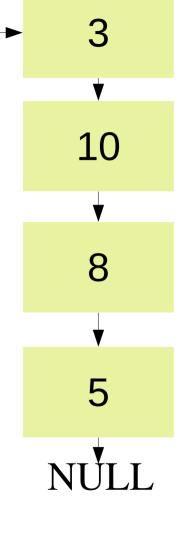
novo.proximo \leftarrow topo;

topo ← novo;

tamanho++;

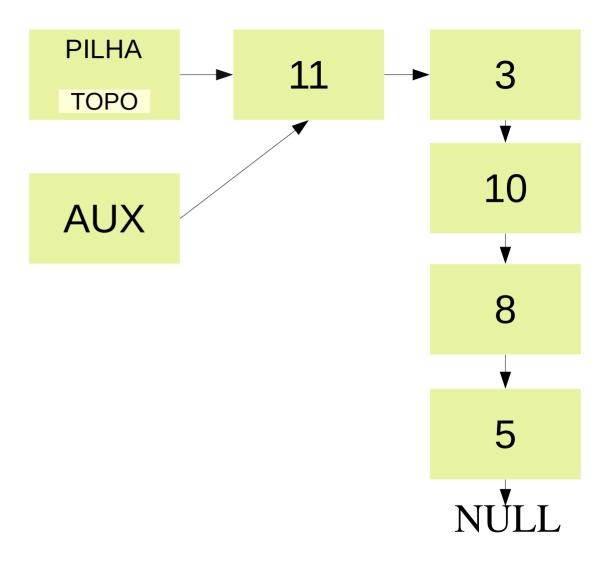
Tamanho = 5

PILHA TOPO

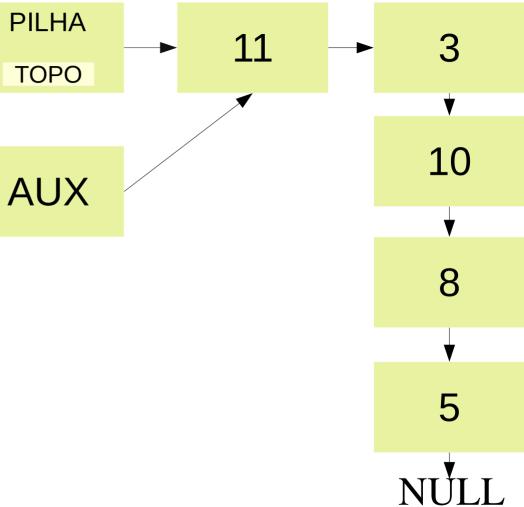


```
pop():
```

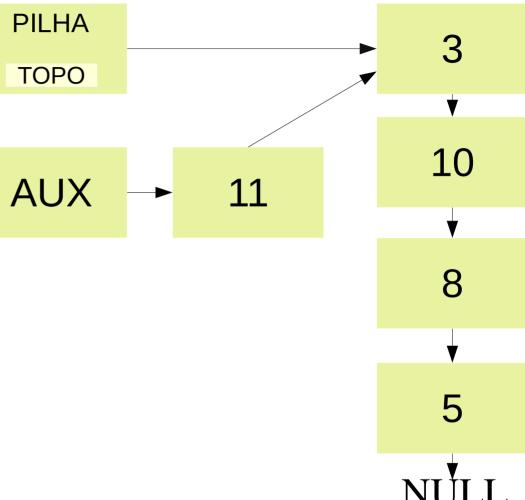
```
aux ← topo;
dado ← aux.valor;
topo ← aux.proximo;
apagar(aux);
tamanho--;
```



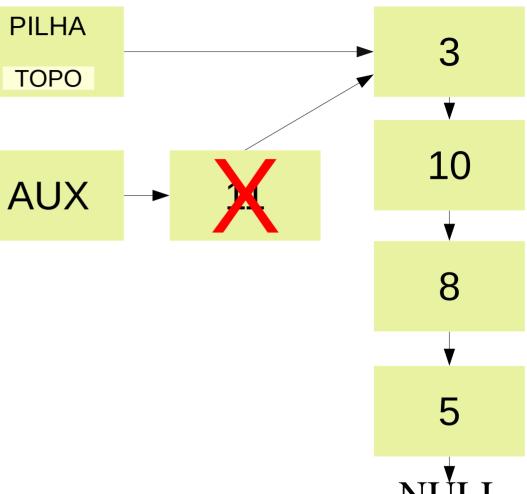
```
pop():
aux \leftarrow topo;
dado \leftarrow aux.valor;
topo \leftarrow aux.proximo;
                                    Dado = 11
apagar(aux);
tamanho--;
Tamanho = 5
```



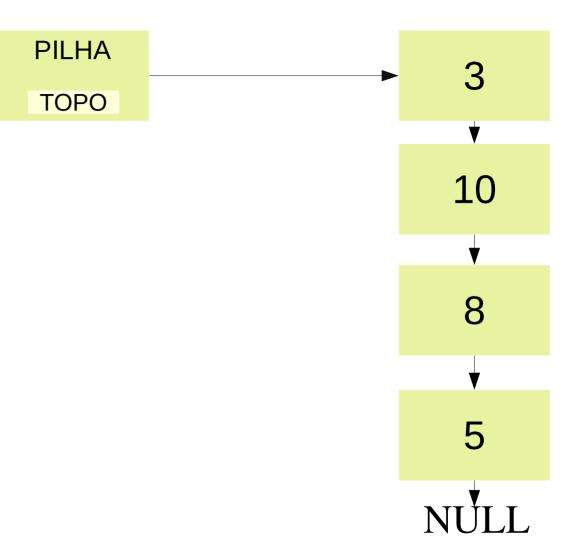
```
pop():
aux \leftarrow topo;
dado \leftarrow aux.valor;
topo ← aux.proximo;
                                  Dado = 11
apagar(aux);
tamanho--;
Tamanho = 5
```



```
pop():
aux \leftarrow topo;
dado ← aux.valor;
topo \leftarrow aux.proximo;
                                  Dado = 11
apagar(aux);
tamanho--;
Tamanho = 5
```

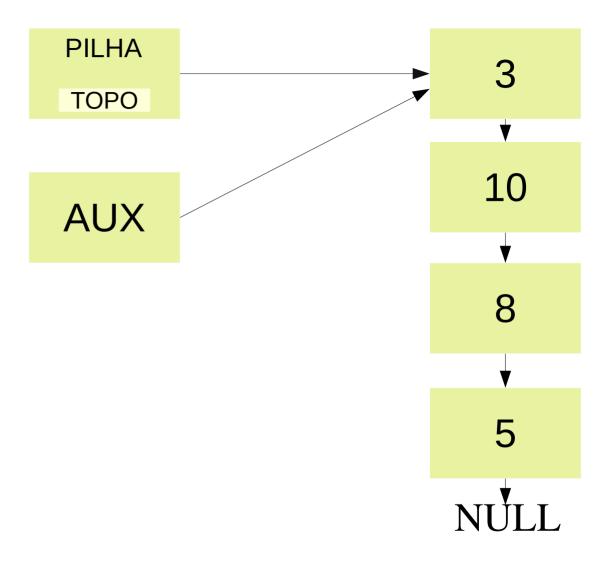


```
pop():
aux ← topo;
dado ← aux.valor;
topo ← aux.proximo;
apagar(aux);
tamanho--;
```

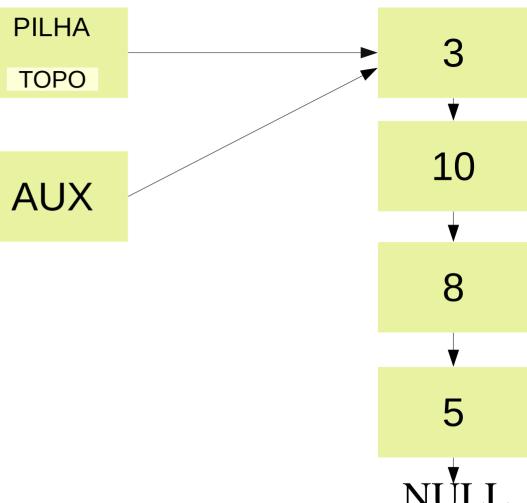


```
pop():
```

```
aux ← topo;
dado ← aux.valor;
topo ← aux.proximo;
apagar(aux);
tamanho--;
```



```
pop():
aux \leftarrow topo;
dado \leftarrow aux.valor;
topo \leftarrow aux.proximo;
                                     Dado = 3
apagar(aux);
tamanho--;
Tamanho = 4
```



```
TOPO
pop():
aux \leftarrow topo;
                                             AUX
dado \leftarrow aux.valor;
                                                                                                10
                              Dado = 3
topo ← aux.proximo;
apagar(aux);
tamanho--;
Tamanho = 4
```

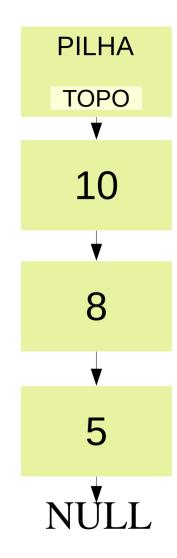
PILHA

```
TOPO
pop():
aux \leftarrow topo;
                                              AUX
dado ← aux.valor;
                               Dado = 3
topo \leftarrow aux.proximo;
apagar(aux);
tamanho--;
Tamanho = 4
```

PILHA

10

```
pop():
aux ← topo;
dado ← aux.valor;
topo ← aux.proximo;
apagar(aux);
tamanho--;
Tamanho = 3
```



Resultado da pilha:

