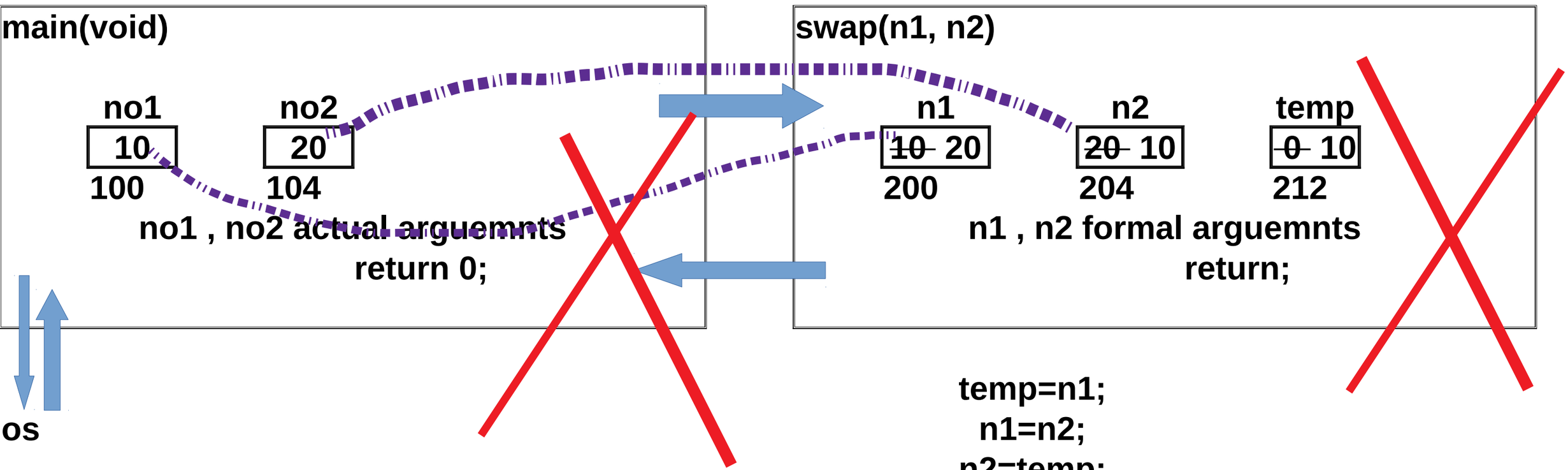
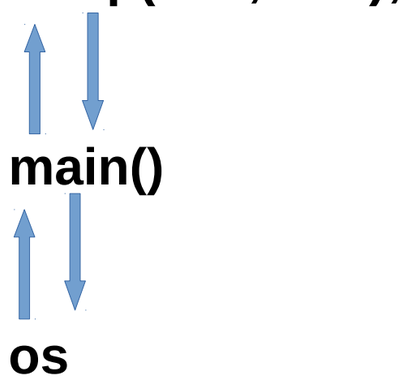
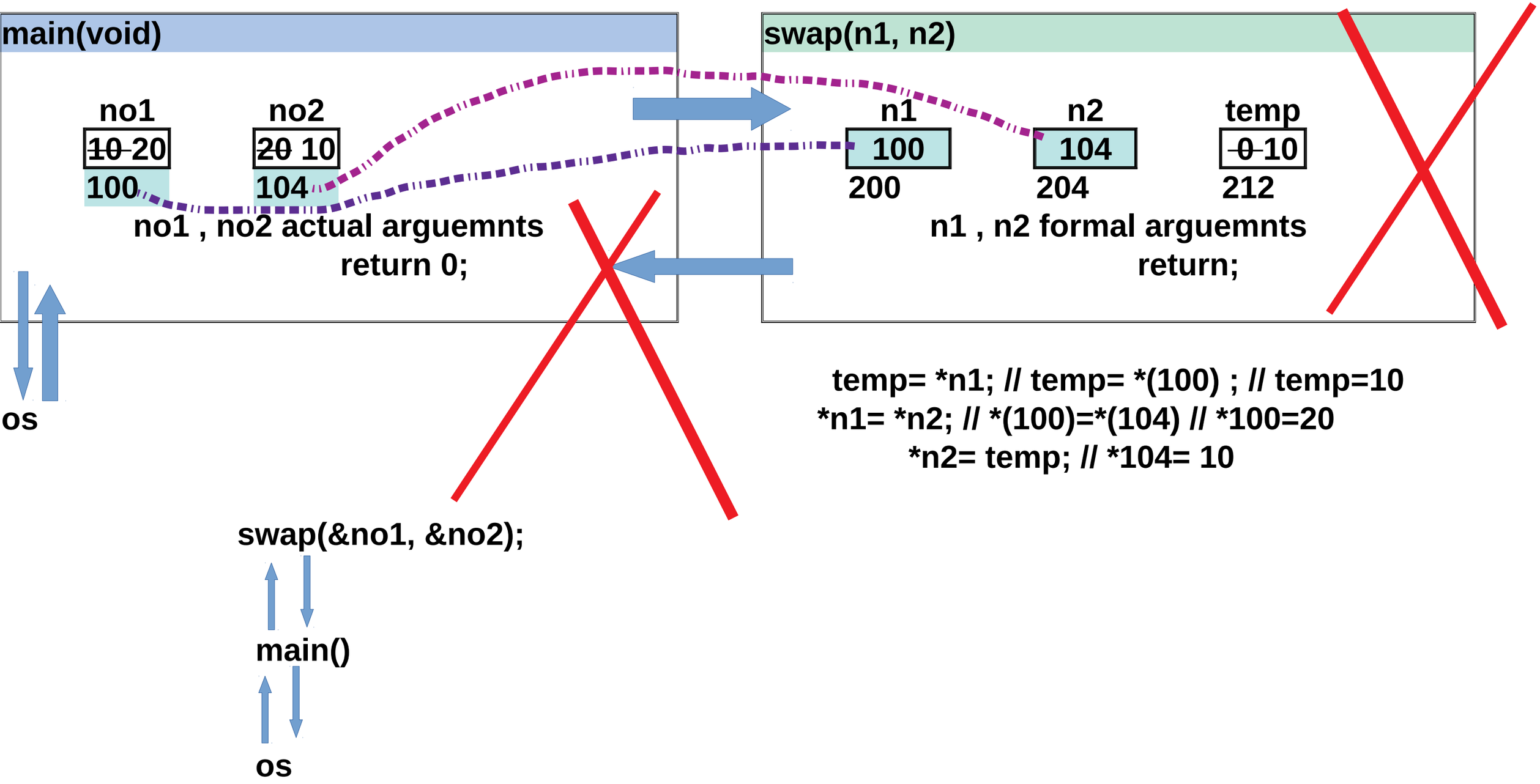
function activation record (stack frame) for swap by value





function activation record (stack frame) for swap by address / reference/ using pointers



swap(&no1, &no2);

main()

os

main()

sumprod()

no1
10
100

no2
20
104

n1
10
200

n2
20
204

no1, no2 actual arguments

n1, n2 formal arguments

sum
~~0~~ 30
112

prod
~~0~~ 200
116

ps pp are pointers

ps
112
212

pp
116
216

return 0;

return;

os

sumprod()

main()

*ps= *(112)= 10+20= 30

pp= (116)=10*20=200

int arr[5];

index	0	1	2	3	4
arr	11	22	33	44	55
address	100	104	108	112	116

arr[4] = *(arr+4)
arr[4] = *(100+4)
arr[4] = *(100+4*4)
arr[4] = *(100+16)
arr[4] = *(116)
arr[4] = 55

arr[4]=55
***(arr+4)==55**

***(4+arr)==55**

array notation pointer notation
arr[index] == *(arr+index)
index[arr] == *(index+arr)

arr[index] == index[arr] == *(arr+index) == *(index+arr)

arr[0] == *(arr+0)
arr[0] == *(100+0)
arr[0] == *(100)

arr[0] == *(arr+1)
arr[0] == *(100+1*4)
arr[0] == *(100+4)
arr[0] == *(104)