int arr[5];

Stack

0	1	2	3	4
int 10	20	30	40	50

arr[0]
0X200[2]

arr 4 bytes
0X200

Stack

arr

0X500
int*

Heap

0	1	2	3	4
int 10	int 20	int 30	int 40	int 50
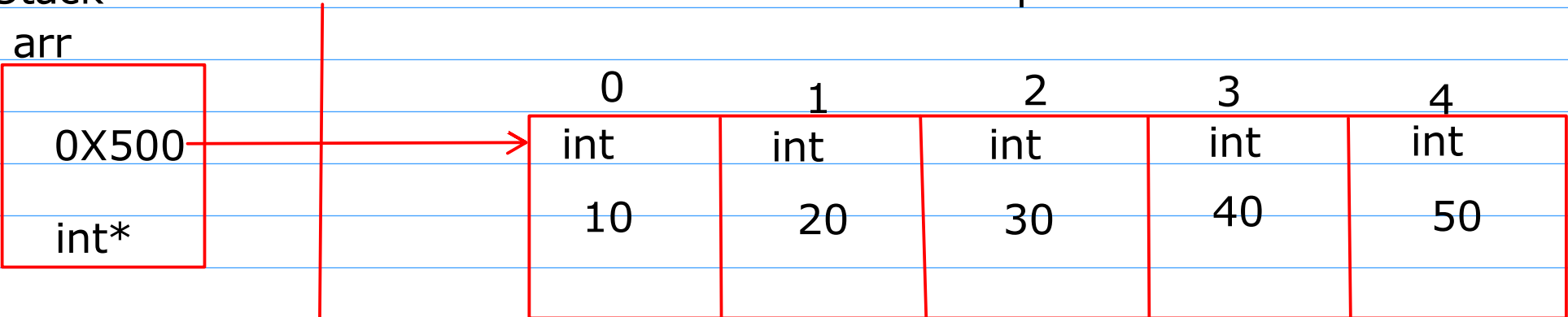
0X500

new int[5];

0X500[1] = 20;   arr
arr[2] = 30;

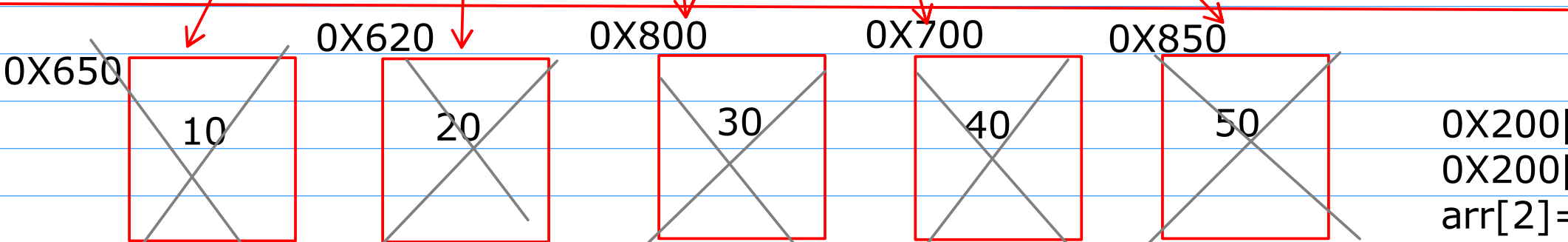| 0	1	2	3	4
int* 0X650	int* 0X620	int* 0X800	int* 0X700	int* 0X850
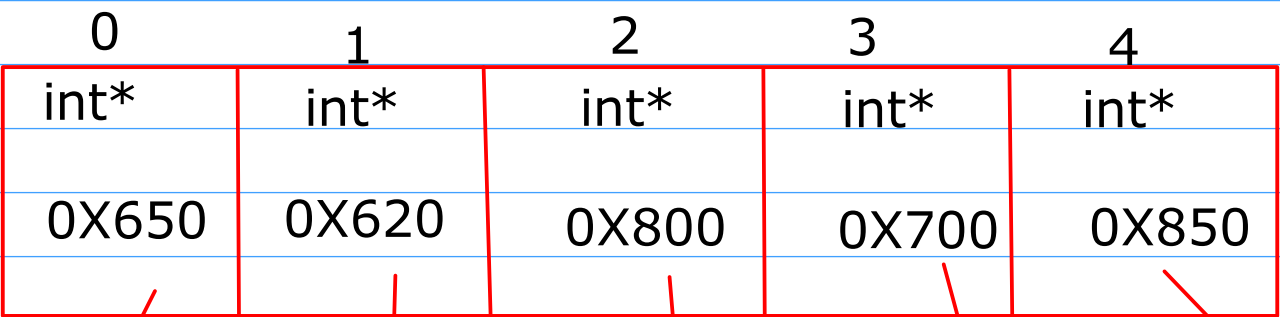
int* arr[5];   Stack

0X200
arr

Heap

0X620   0X800   0X700   0X850

0X650

10	20	30	40	50

new int(10); new int(20); new int(30); new int(40); new int(50);

0X200[0] = new int;
0X200[1]= new int(20);
arr[2]=new int(30);
arr[3]=new int(40);
arr[4]=new int(50);

delete arr[0];
delete 0x200[0];
delete 0X650;

stack **heap**

0	1	2	3	4
int* 8 bytes	int*	int*	int*	int*
0X500	0X600	0X800	0X700	0X900

arr

0X200

0X100

int**

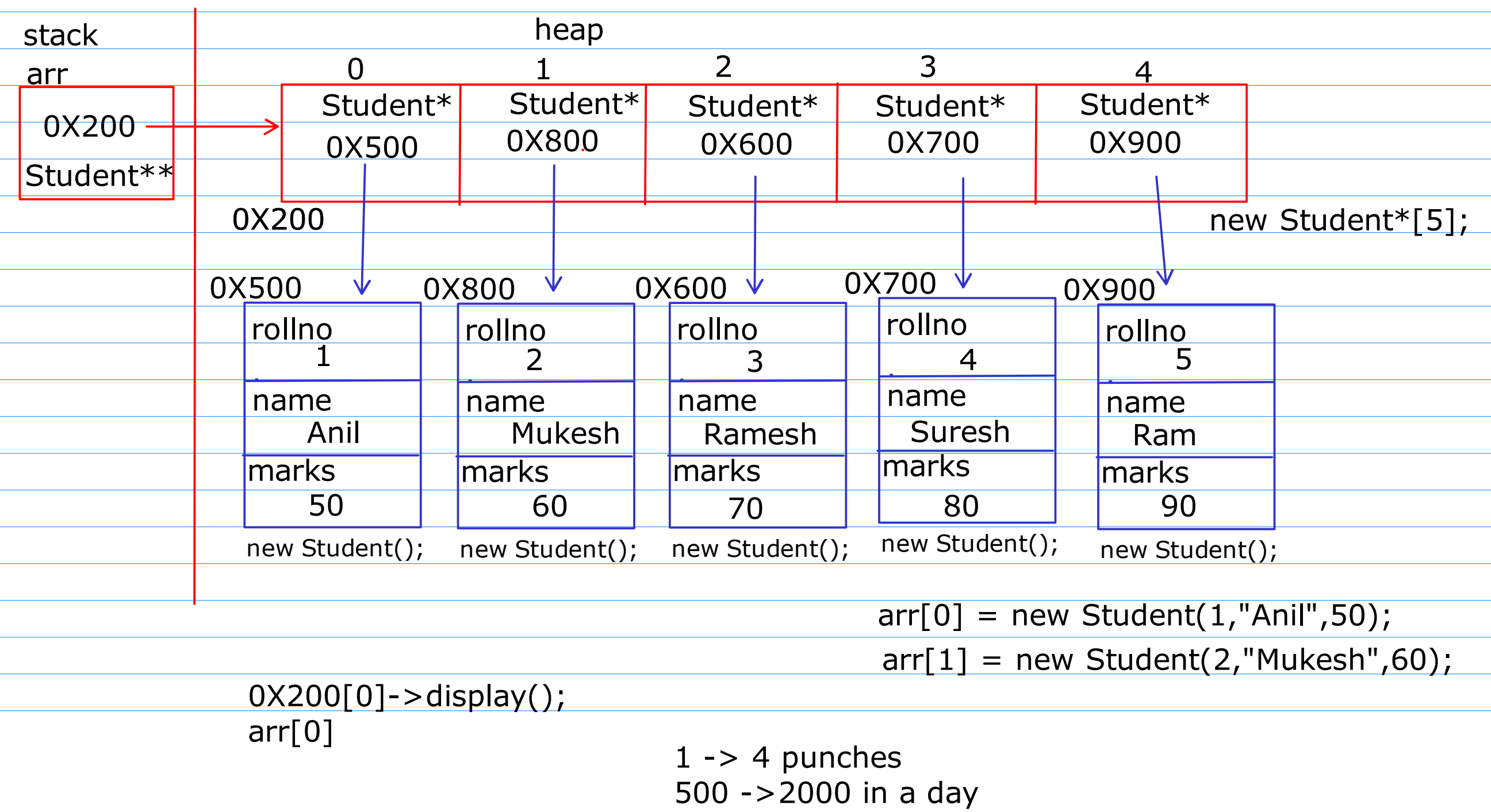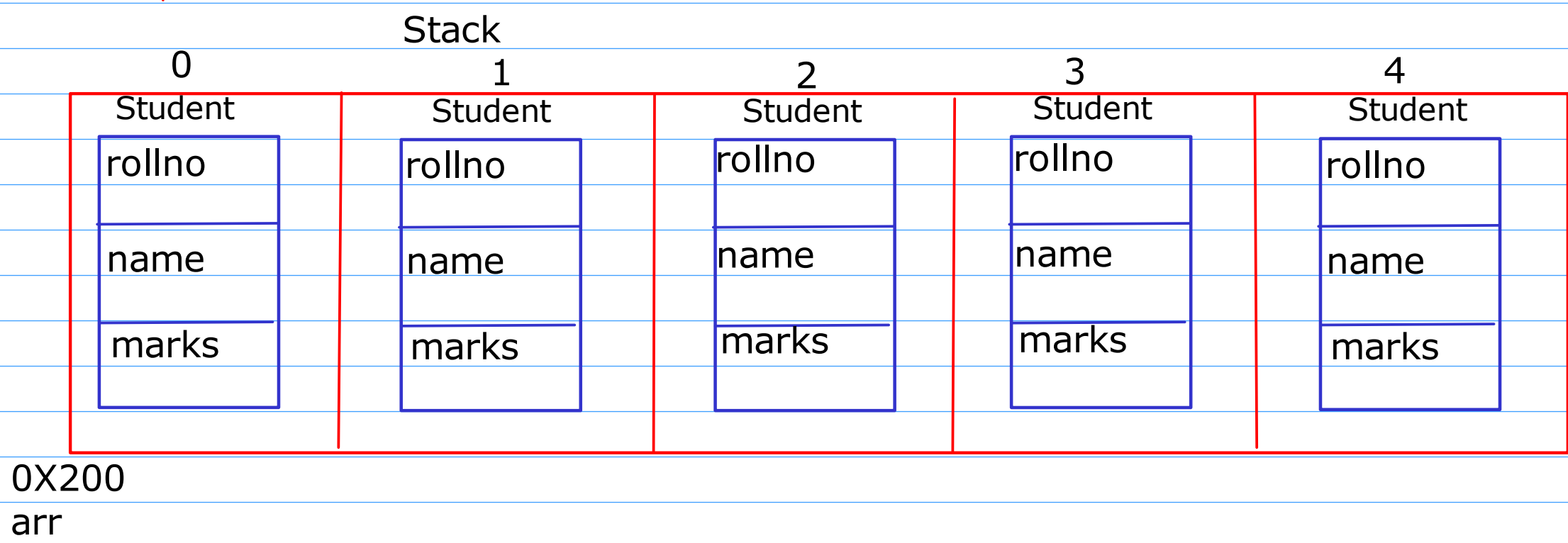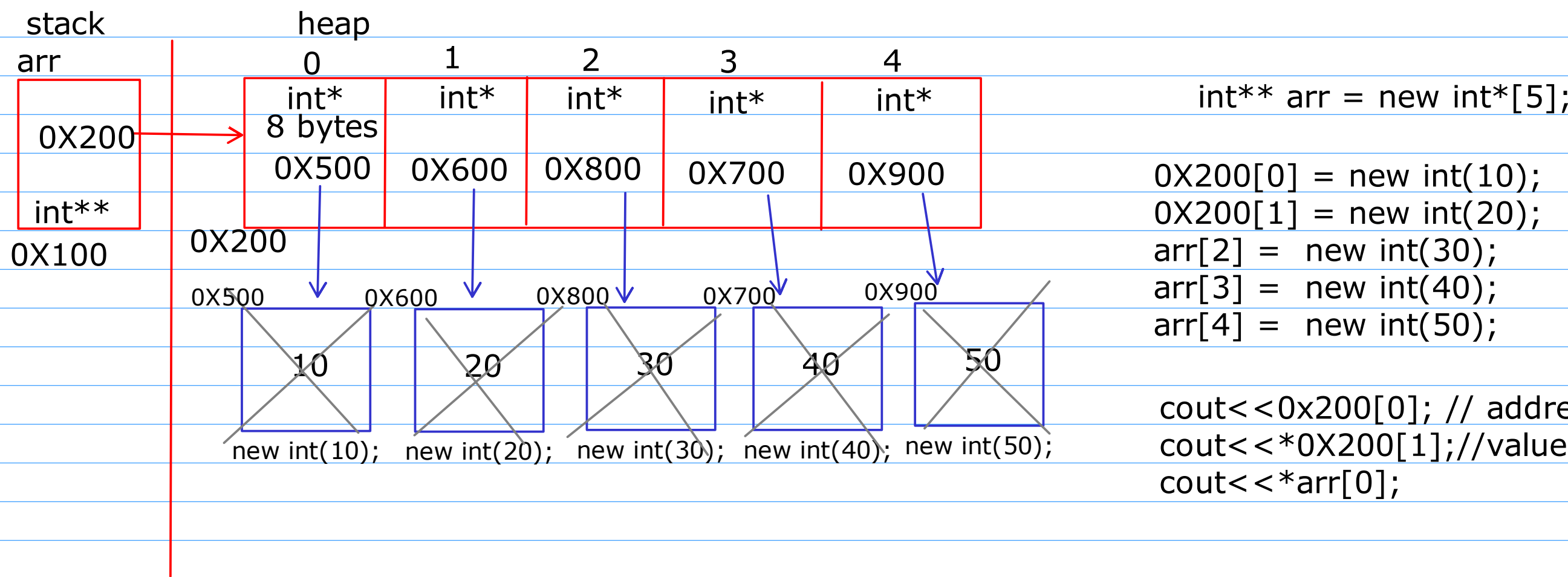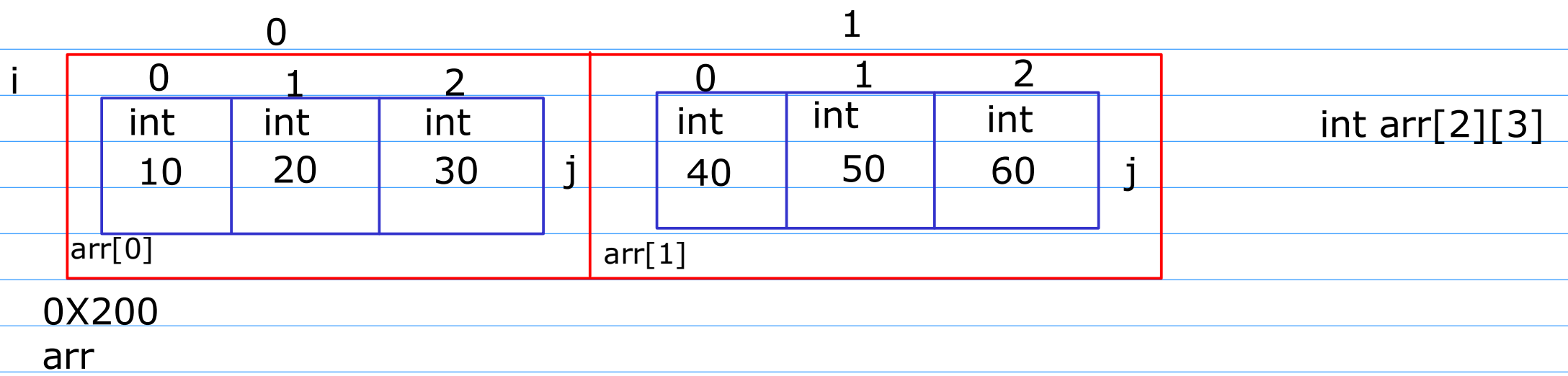0X200

0X500   0X600   0X800   0X700   0X900

10   20   30   40   50

new int(10); new int(20); new int(30); new int(40); new int(50);

int** arr = new int*[5];

0X200[0] = new int(10);
0X200[1] = new int(20);
arr[2] = new int(30);
arr[3] = new int(40);
arr[4] = new int(50);

cout<<0x200[0]; // addres
cout<<*0X200[1];//value
cout<<*arr[0];

Stack

0	1	2	3	4
Student	Student	Student	Student	Student
rollno	rollno	rollno	rollno	rollno
name	name	name	name	name
marks	marks	marks	marks	marks

0X200

arr

stack **heap**

arr

0	1	2	3	4
Student*	Student*	Student*	Student*	Student*
0X500	0X800	0X600	0X700	0X900

0X200

Student**

0X200

new Student*[5];

0X500   0X800   0X600   0X700   0X900

rollno 1	rollno 2	rollno 3	rollno 4	rollno 5
name Anil	name Mukesh	name Ramesh	name Suresh	name Ram
marks 50	marks 60	marks 70	marks 80	marks 90

new Student(); new Student(); new Student(); new Student(); new Student();

arr[0] = new Student(1,"Anil",50);

arr[1] = new Student(2,"Mukesh",60);

0X200[0]->display();
arr[0]

1 -> 4 punches
500 ->2000 in a day

i   int arr[2][3]

0			1		
0	1	2	0	1	2
int	int	int	int	int	int
10	20	30	40	50	60

arr[0]   arr[1]

0X200
arr

arr[0][0] = 10;   arr[1][0] = 40;
arr[0][1] = 20;   arr[1][1] = 50;

stack   heap

arr

	0	1
0X200	int*	int*
	0X300	0X400

int**

new int*[2]

arr[0] = new int[3];
arr[1] = new int[3];

0X200

0	1	2		0	1	2
int	int	int		int	int	int
10	20	30		40	50	60

0X300   0X400

0X300[0] = 10;
0X200[0][0] = 10;
arr[0][0] = 10;

delete 0X300;
delete 0X200[0];
delete []arr[0];

ptr

0X200

0X200

ptr ->0X200 =
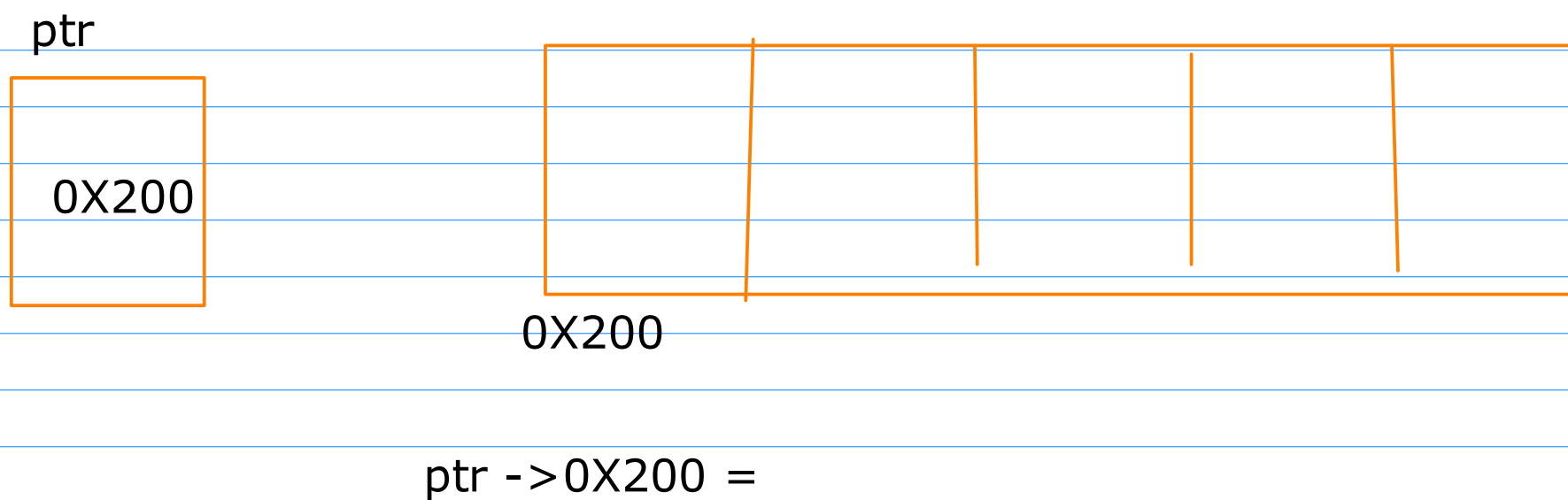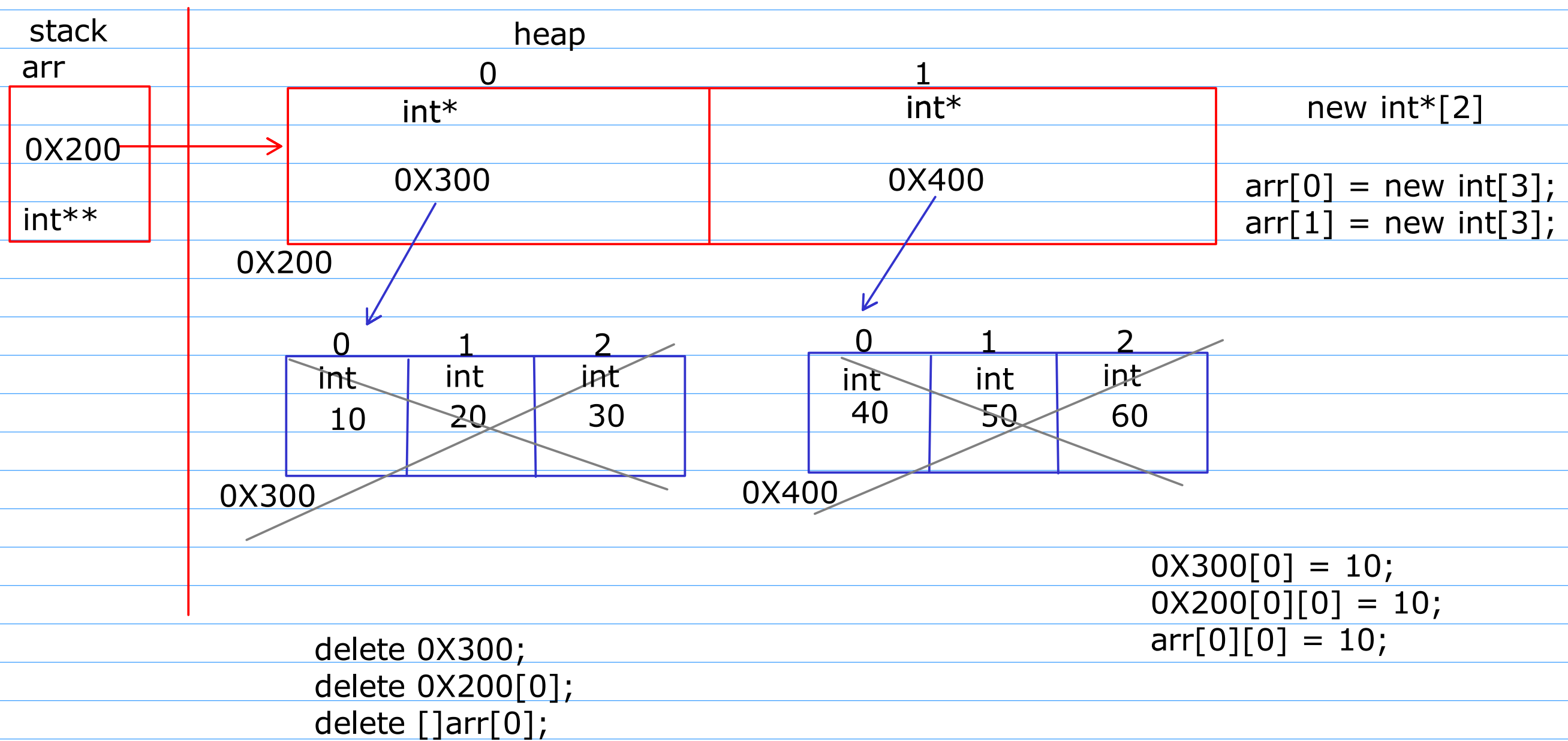
```
Student*** arr= new Student**[2]
arr[0] = new Student*[3];
arr[1] = new Student*[2];
arr[0][0] = new Student();
.
.
arr[0][239] =
```

stack   heap   ⑧
arr   0   DAC   1   DMC

Student**	Student**
0X300	0X400

0X200 →

0X200   new Student**[2]

0   1   2   0   1

Student*	Student*	Student*
0X500	0X600	0X700

Student*	Student*
0X550	0X650

0X300   ⑥   new Student*[3]   0X400   ⑦   new Student*[2]

id 1	id 2	id 3	id 4	id 5
name Anil	name Mukesh	name Ramesh	name Suresh	name Ram
marks 65	marks 80	marks 70	marks 60	marks 70

0X500   0X600   0X700   0X550   0X650

①   ②   ③   ④   ⑤
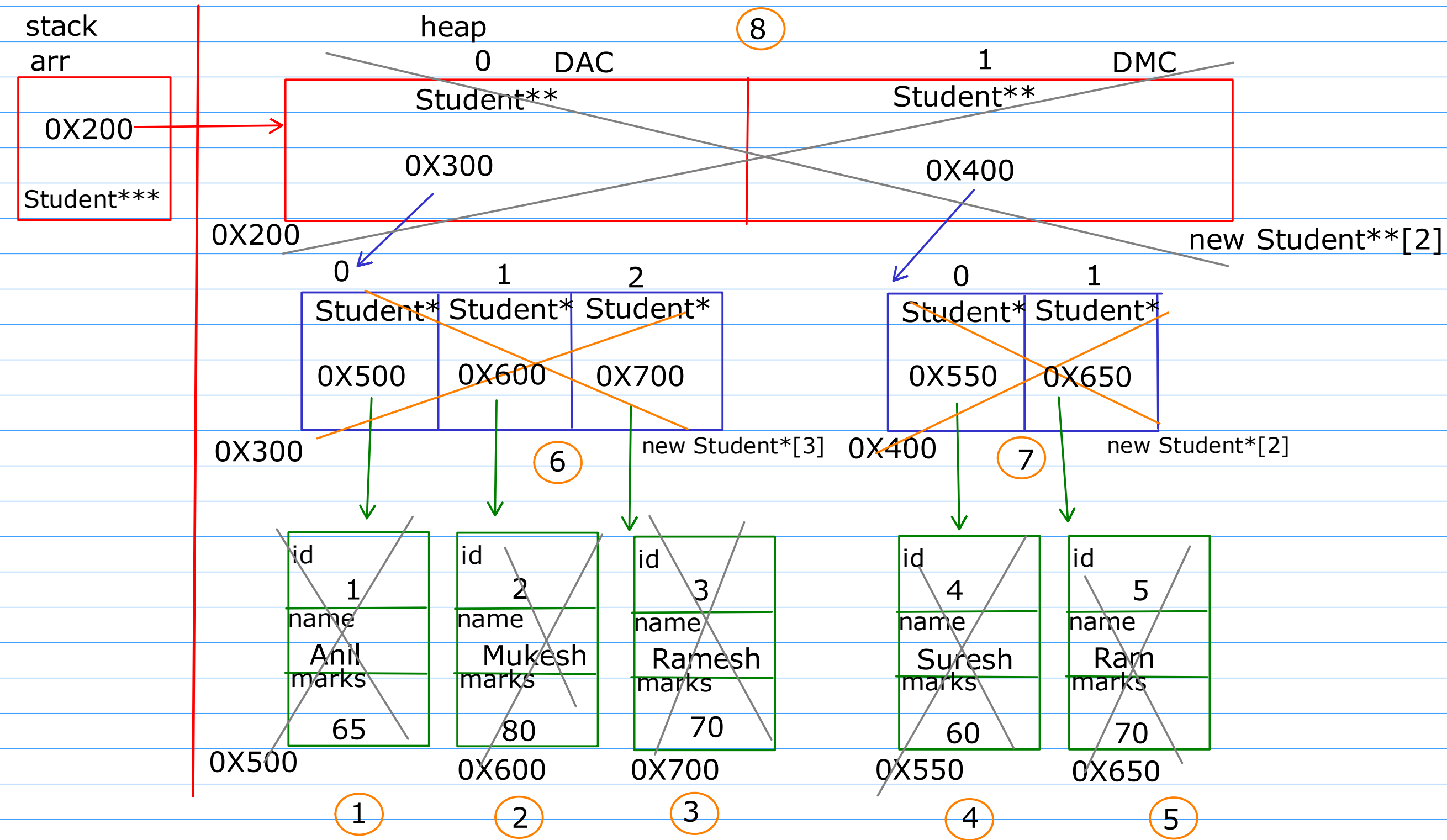
```
delete 0X500;
delete 0X300[0];
delete 0X200[0][0];
delete arr[0][0];
```