

ex: Read names of 10 students consist of first name, second name, and third name then save the second name in queue1.

Pointers:

A pointer contains the location, or address in memory, of a memory cell.

Pointer declaration → **int *p;**

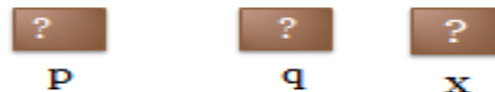
The expression, *p, denotes the memory cell to which p points

- The & address-of operator places the address of a variable into a pointer variable

p = &x; (pointing to statically allocating memory)

p = new int; (A dynamically allocated pointer variable)

a) **int *p, *q;**
int x;



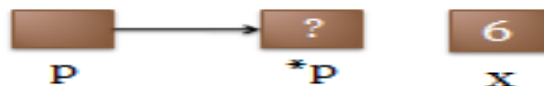
b) **p = &x;**



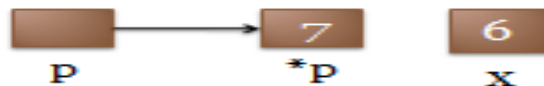
c) ***p = 6;**



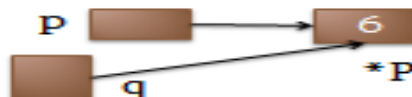
d) **p = new int;**



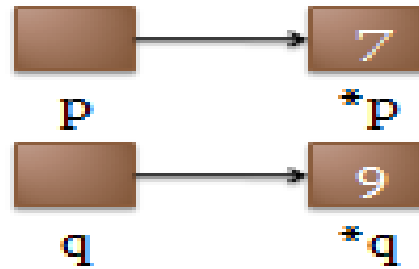
e) ***p = 7;**



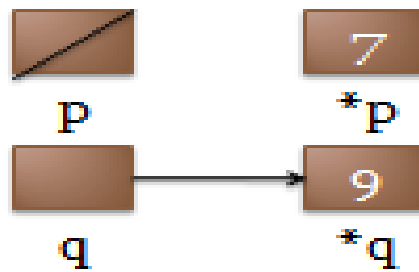
f) **q = p;**



g) `q = new int;`
`*q = 9;`



h) `p = NULL;`



i) `delete q;`
`q = NULL;`



- The delete operator returns dynamically allocated memory to the system for reuse, and leaves the variable undefined

delete p;

- A pointer to a deallocated memory cell is possible and dangerous

- Assign the pointer `q` the value in `p`
- `q = p;`

