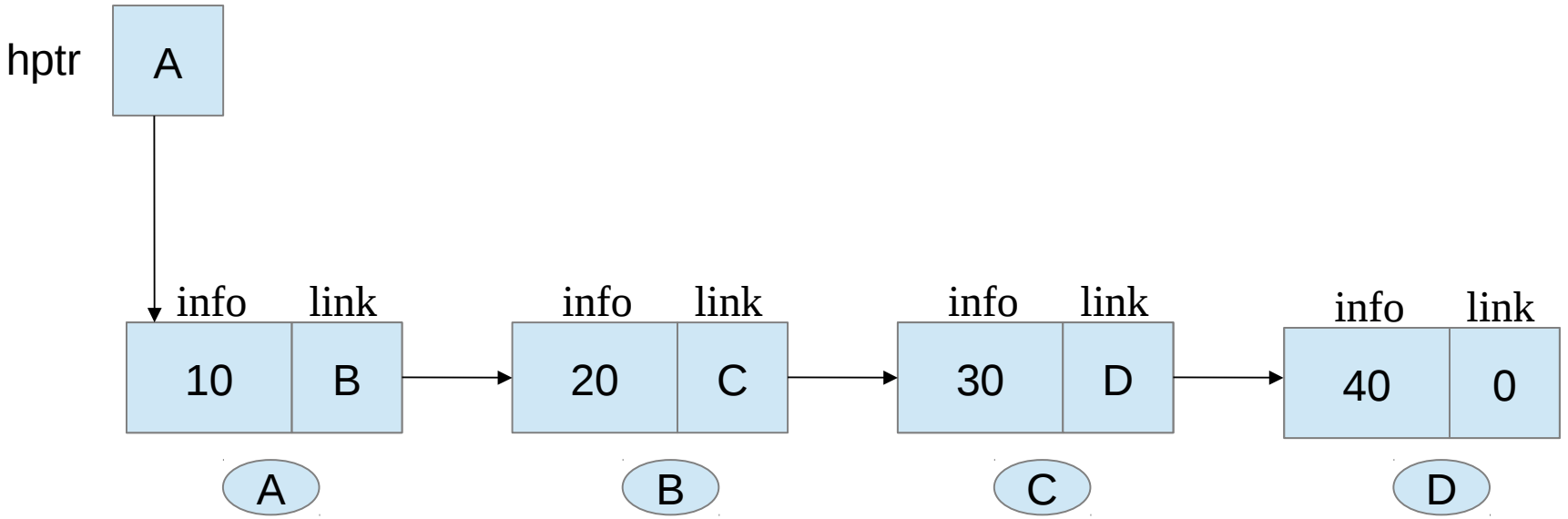
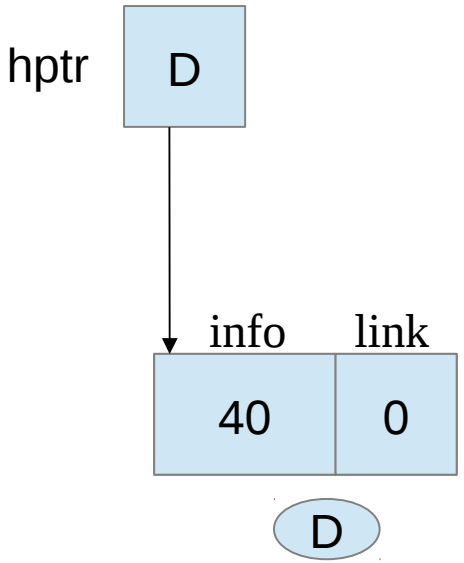
Single Linked list

Ex:



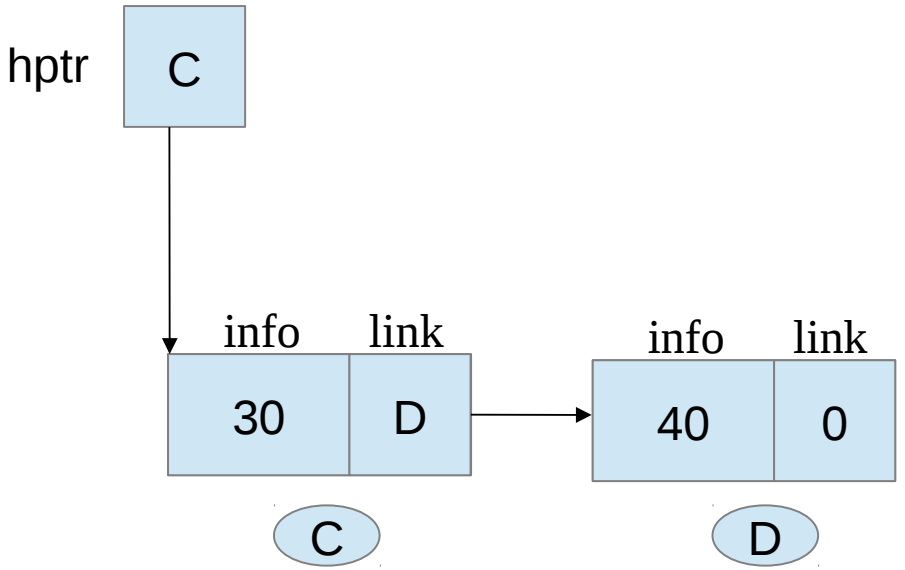
Single Linked list

Ex:



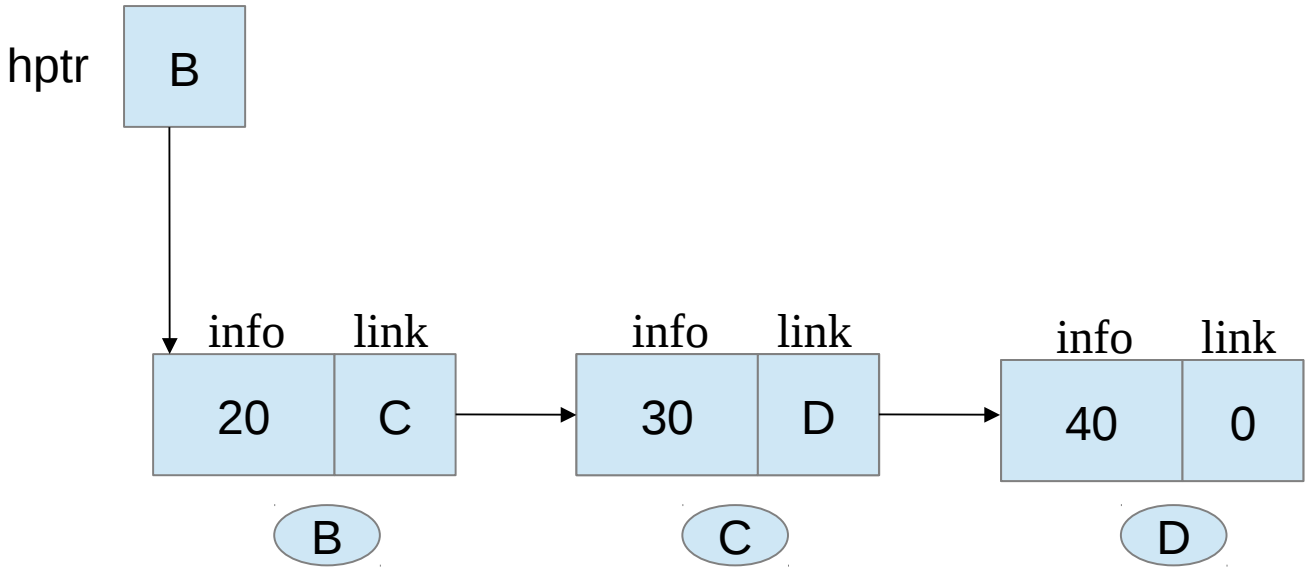
Single Linked list

Ex:



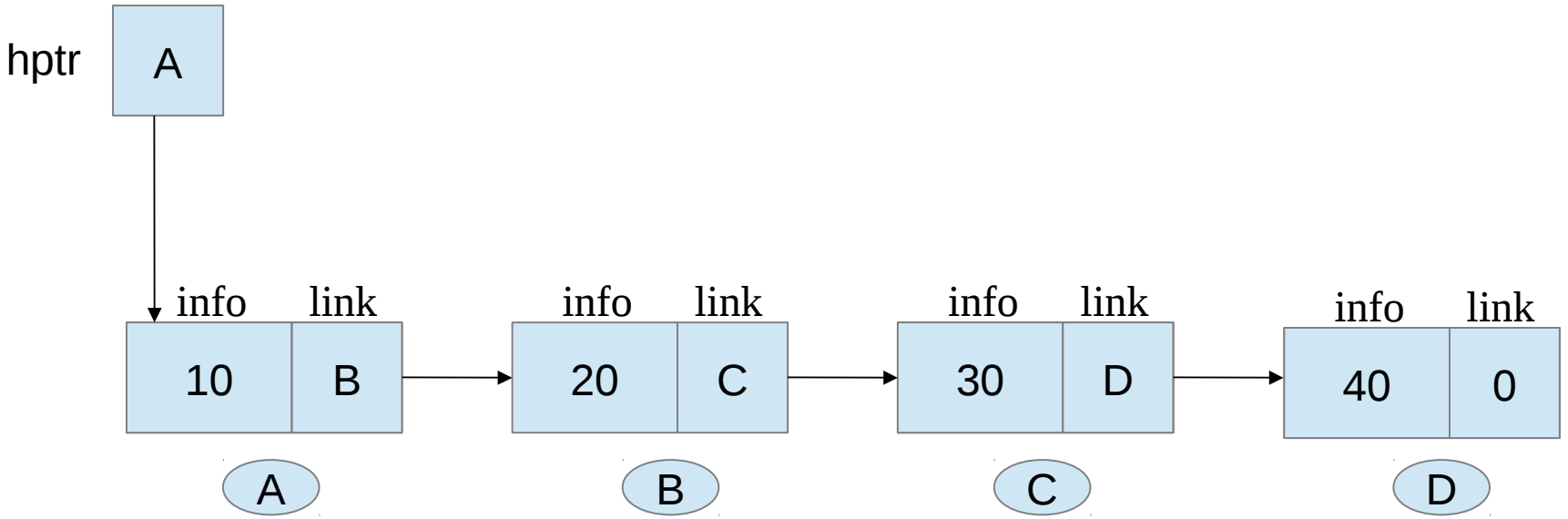
Single Linked list

Ex:



Single Linked list

Ex:



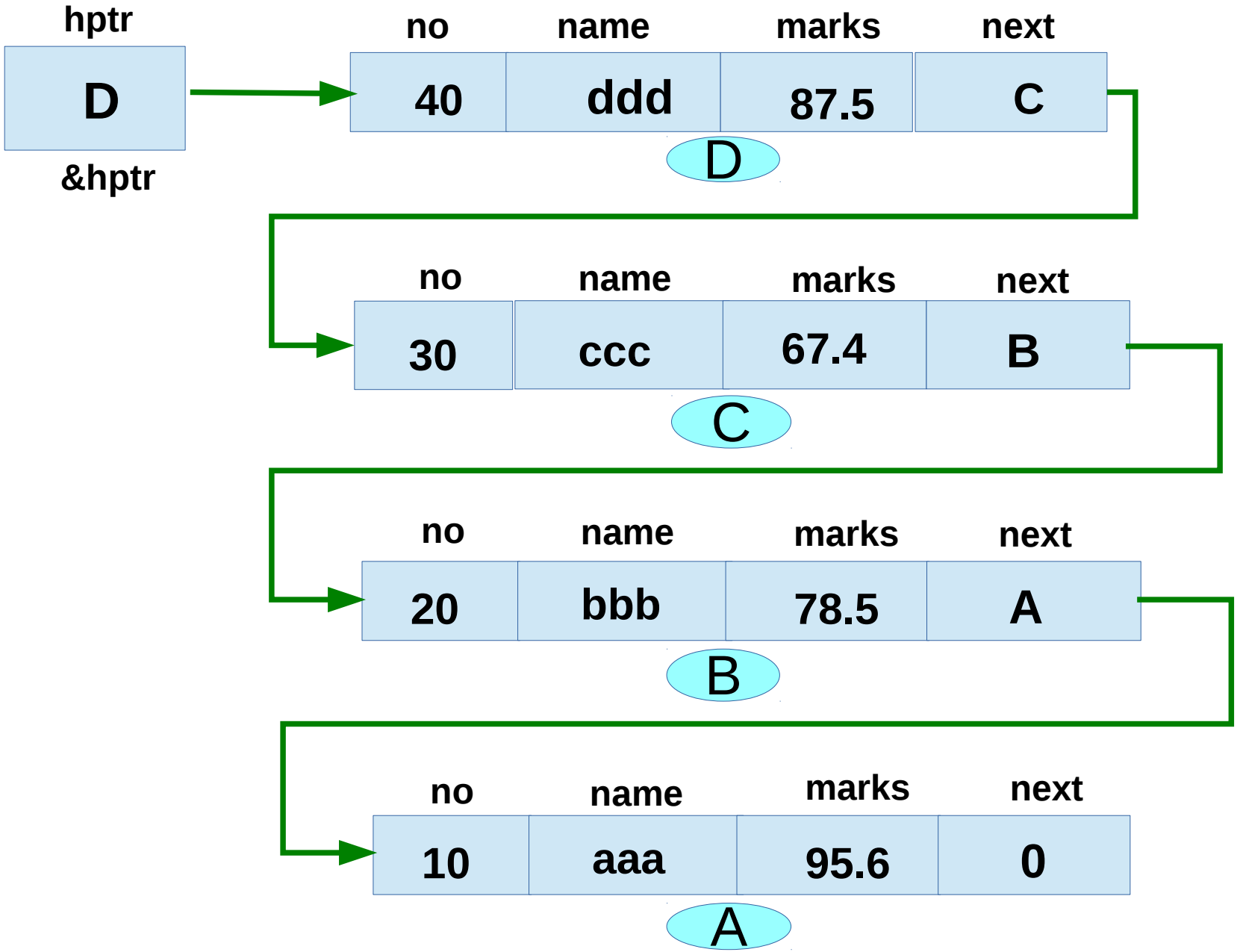
Important Points to Remember

1, Need to declare a self referential structure

(for nodes – basic buliding block)

```
struct list{
int data;
struct list *next;
};
```

2, Need make a pointer (structure pointer)- called head pointer for storing the starting node address.

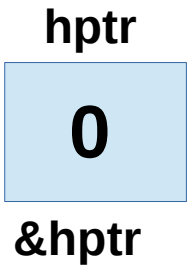

hptr
D
&hptr
no
name
marks
next
40
ddd
87.5
C
D
no
name
marks
next
30
ccc
67.4
B
C
no
name
marks
next
20
bbb
78.5
A
B
no
name
marks
next
10
aaa
95.6
0
A

add_begin

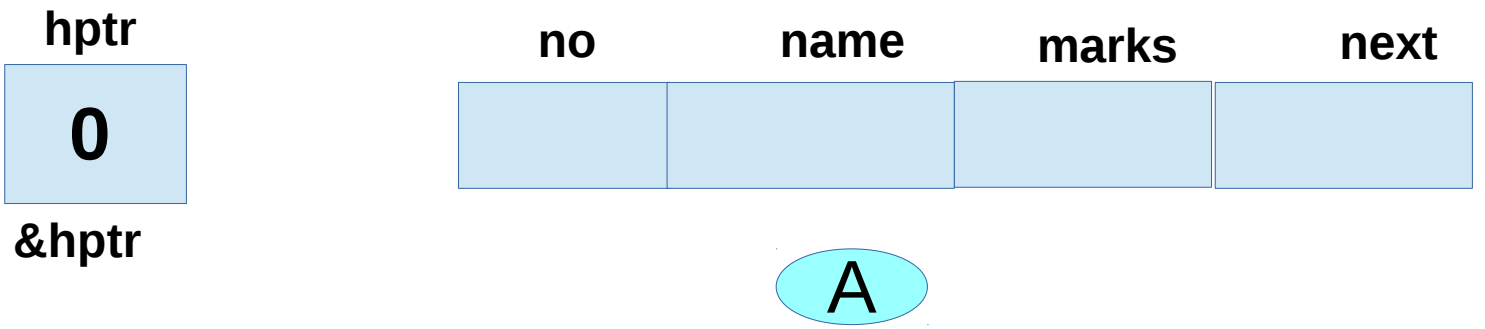
Insertion of every new node at the begining (hptr)

If you enter 1st student record

add_begin

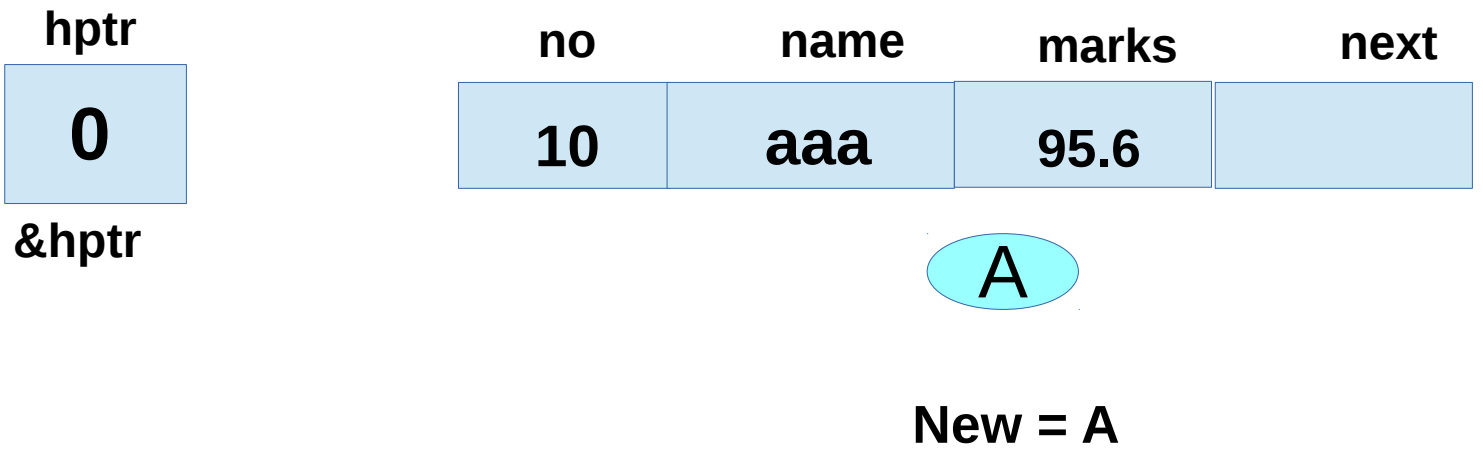


add_begin



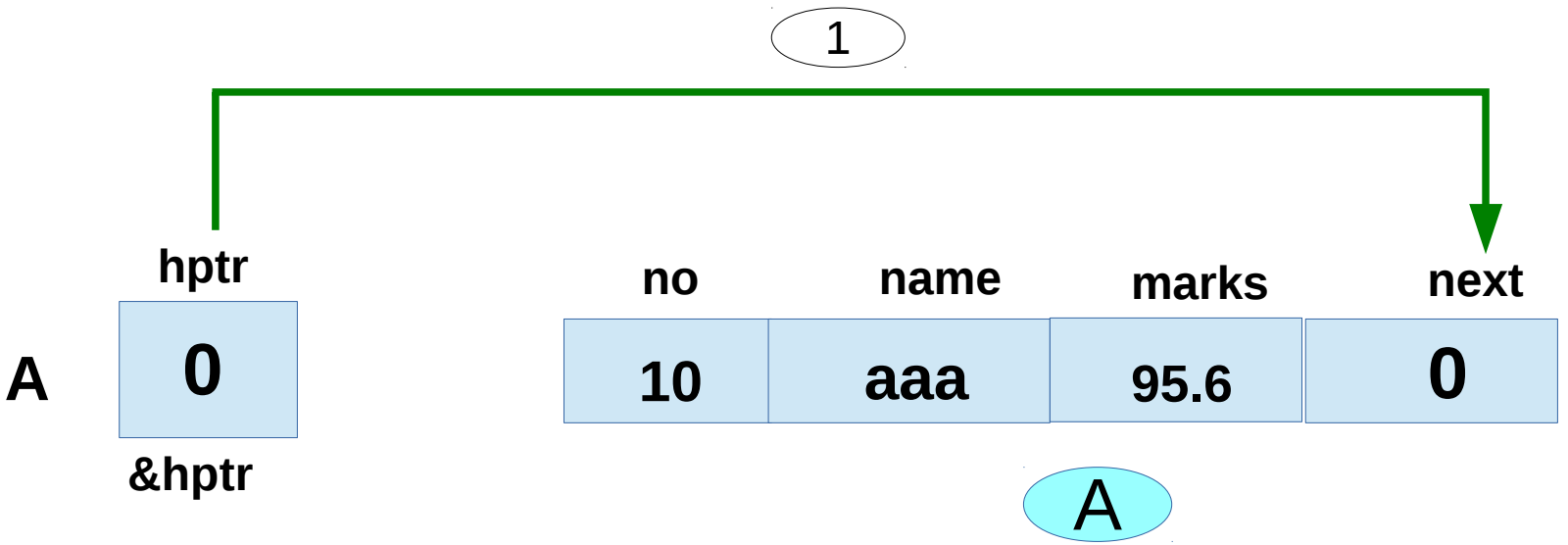
New = A

dd_begin



add_begin

1) New - > next = hptr

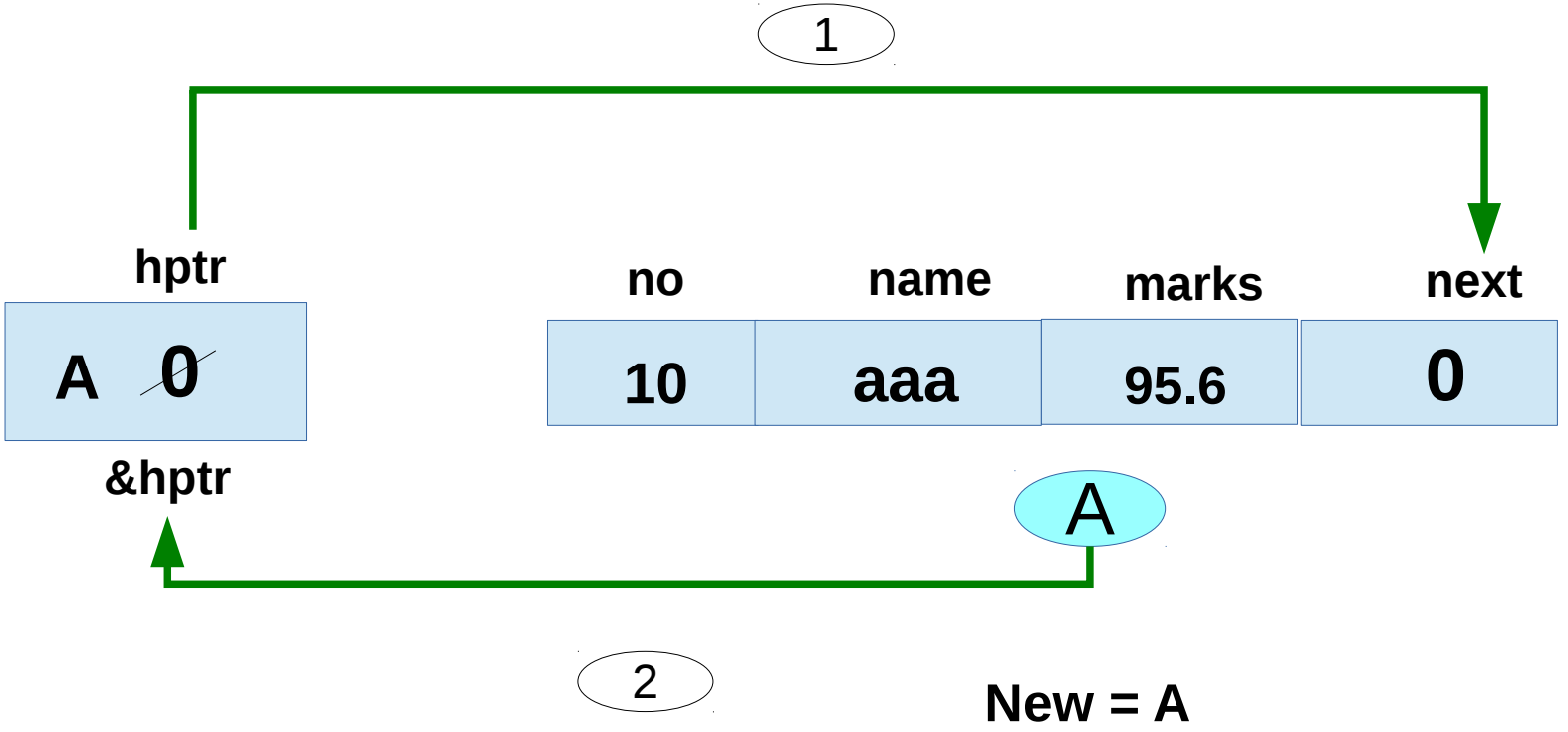


New = A

add_begin

1) New - > next = hptr

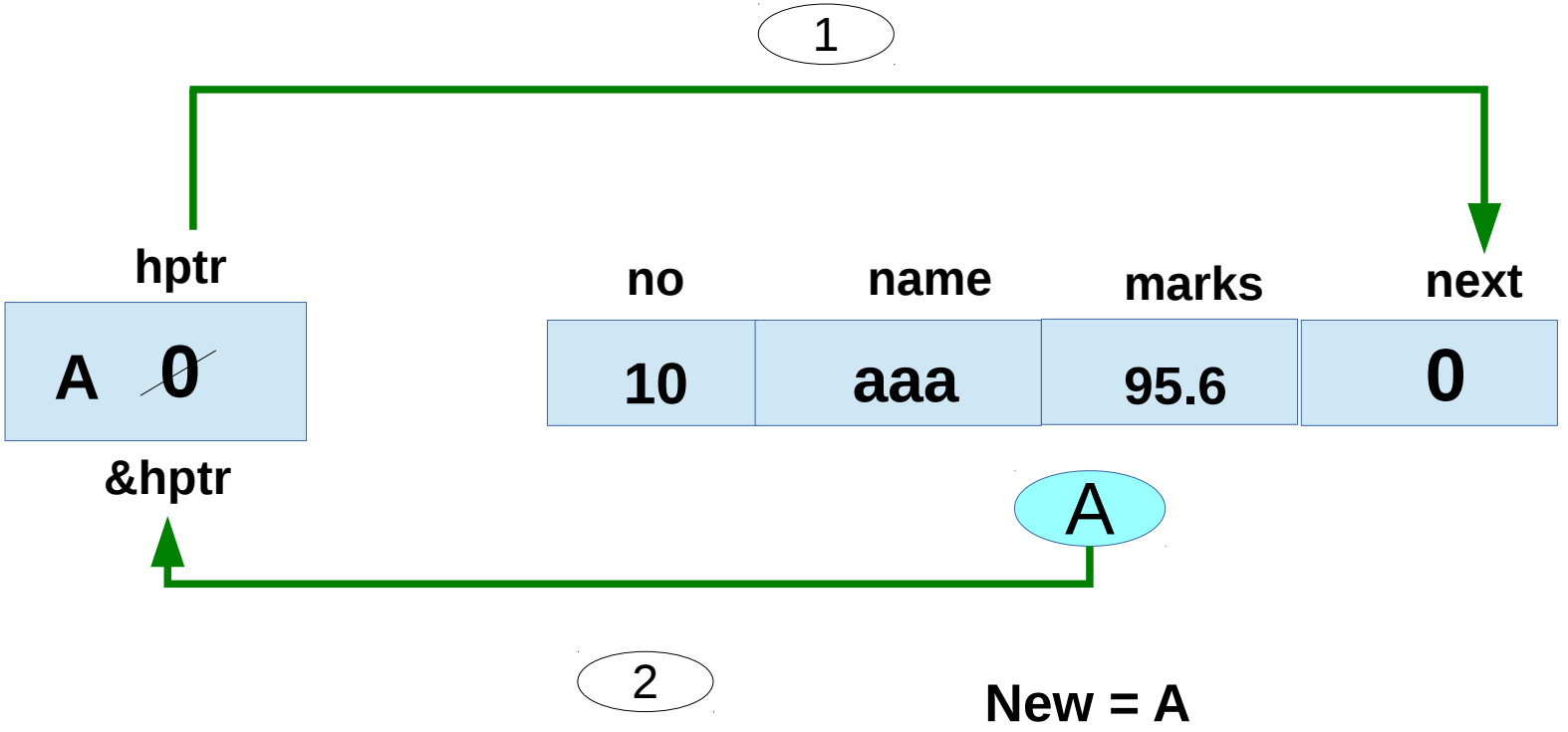
2) hptr = New



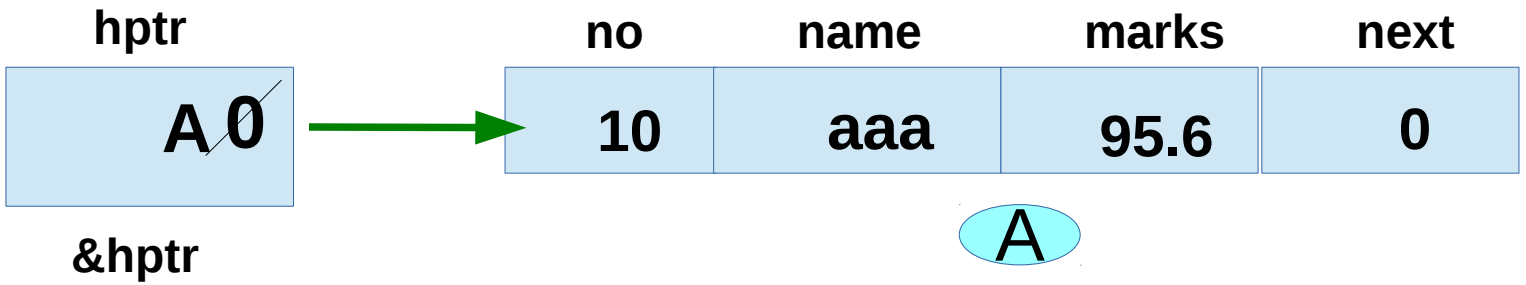
add_begin

1) New - > next = hptr

2) hptr = New

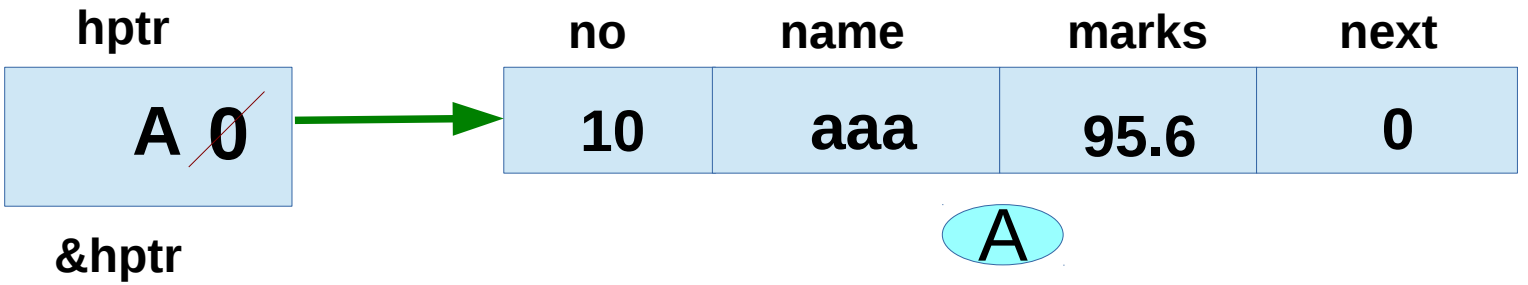


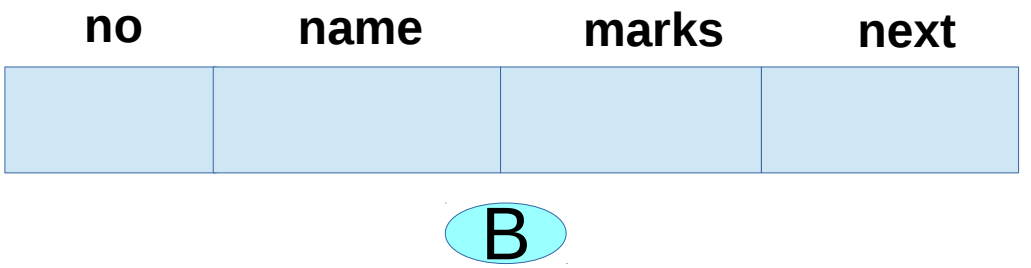
add_begin



If you enter 2nd student record

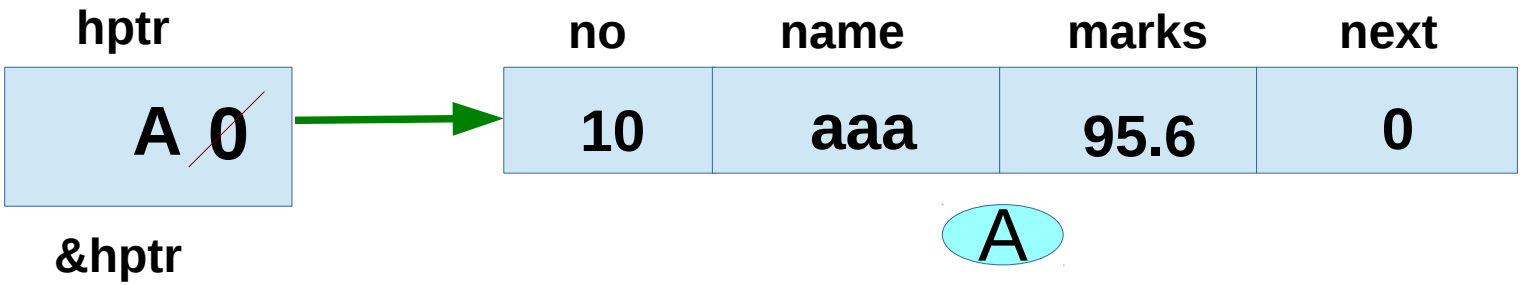
add_begin

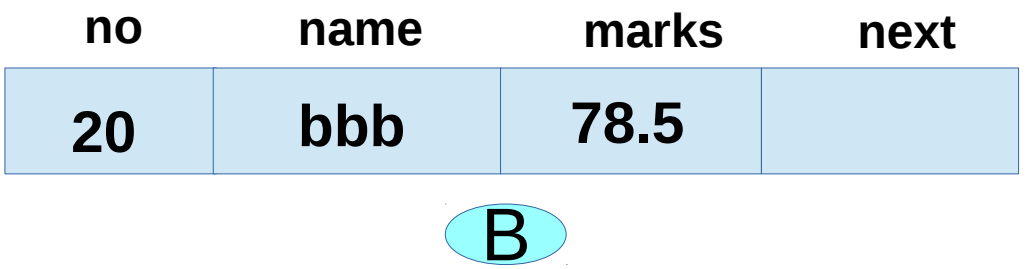




New = B

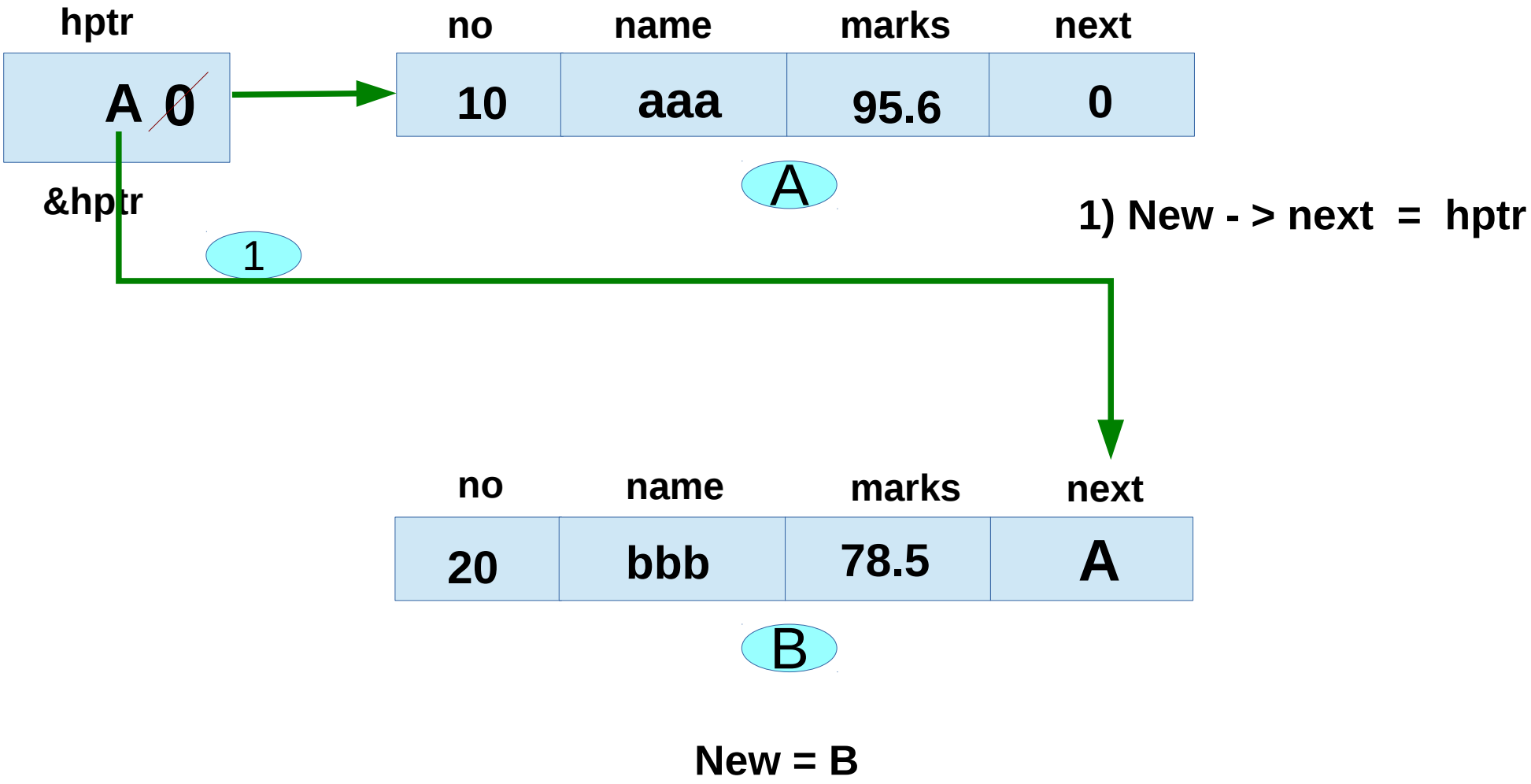
add_begin



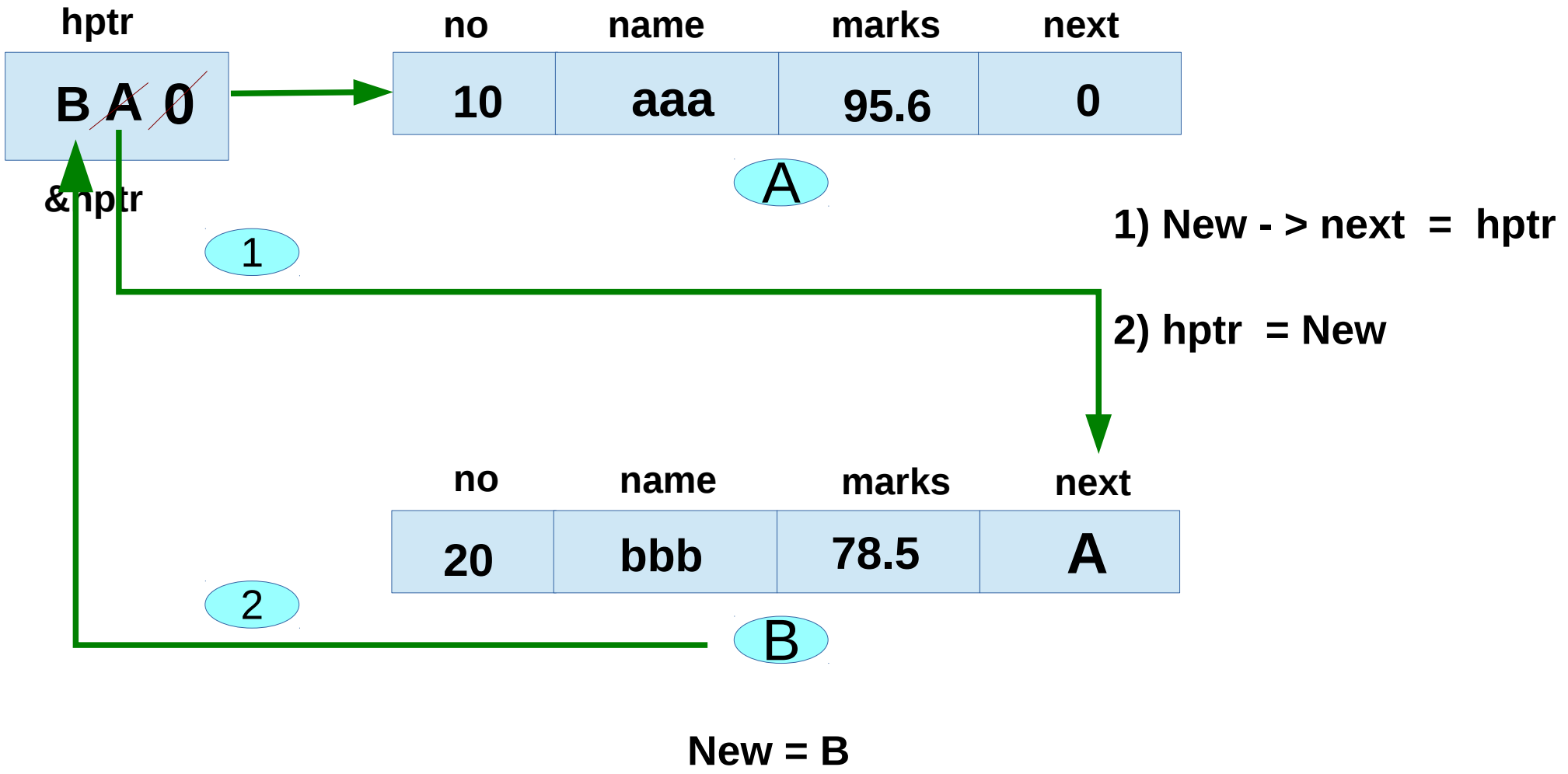


New = B

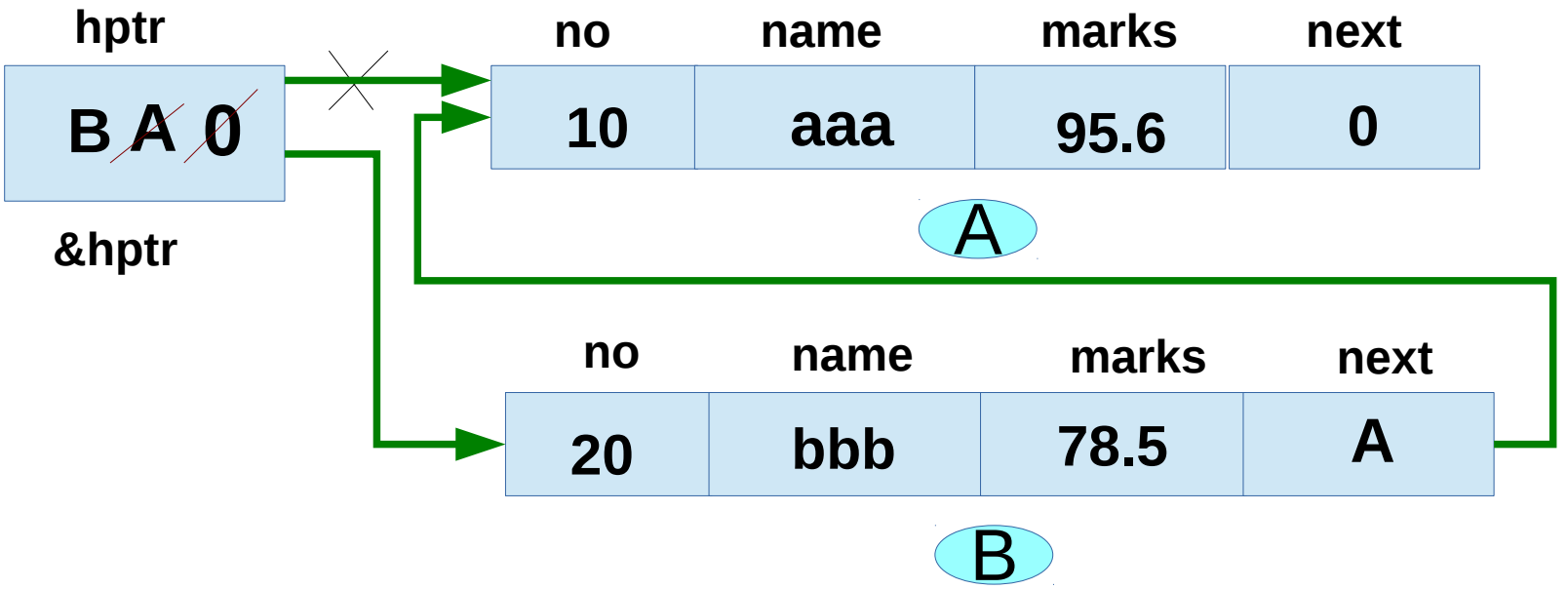
add_begin


hptr
A 0
no
name
marks
next
10
aaa
95.6
0
A
&hptr
1
1) New - > next = hptr
no
name
marks
next
20
bbb
78.5
A
B
New = B

add_begin


hptr
B A 0
no
name
marks
next
10
aaa
95.6
0
A
&hptr
1
1) New - > next = hptr
2) hptr = New
no
name
marks
next
20
bbb
78.5
A
2
B
New = B

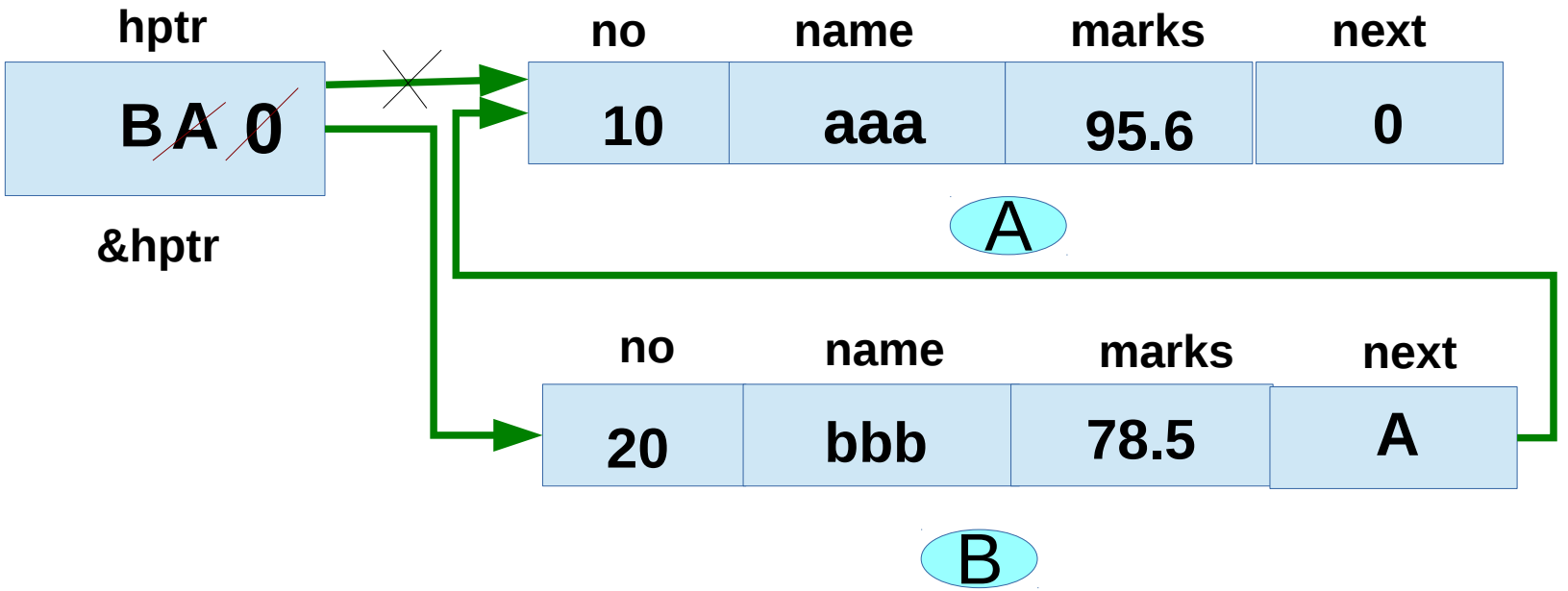
add_begin



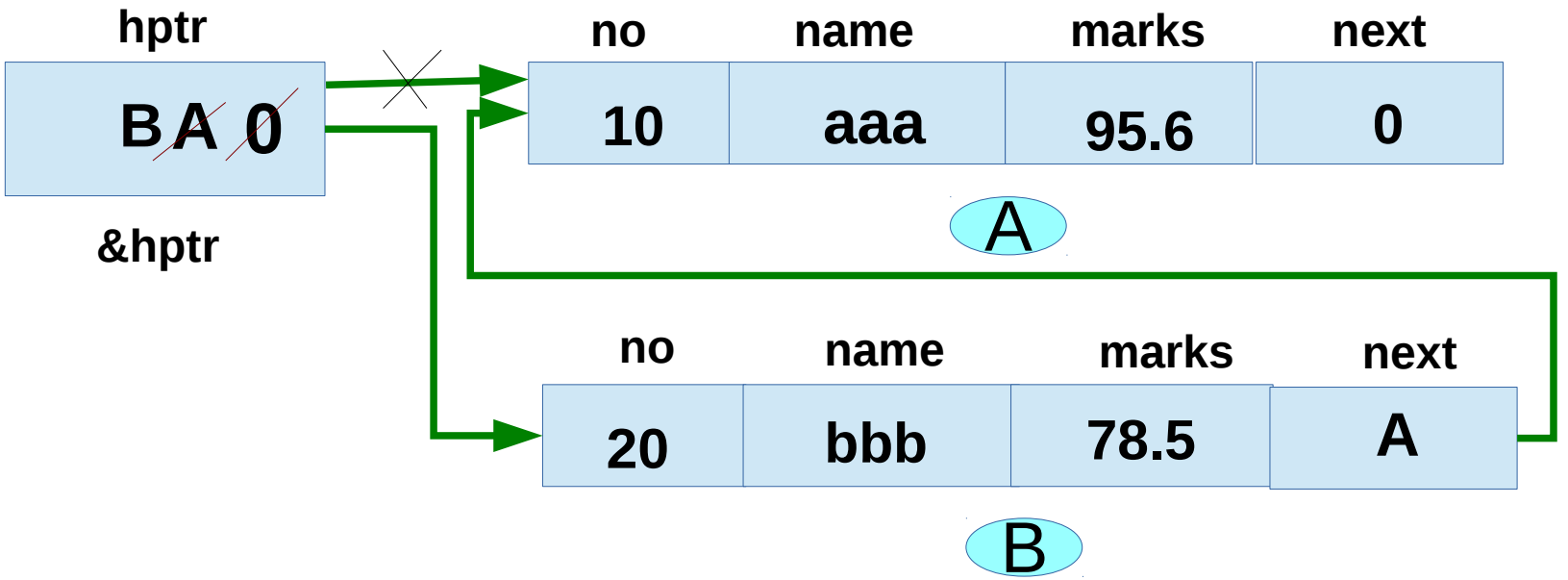
New = B

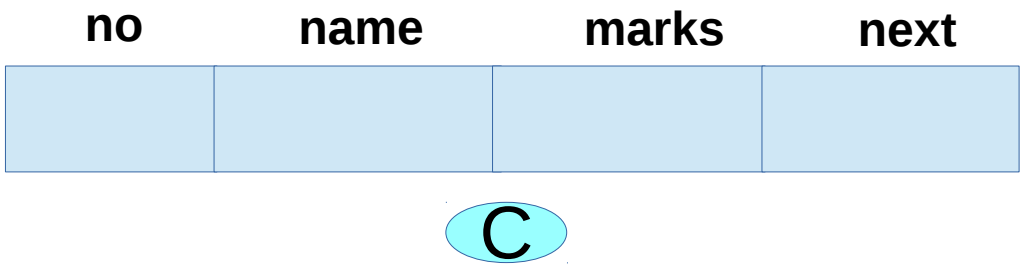
If you enter 3rd student record

add_begin


hptr
B A 0
&hptr
no
name
marks
next
10
aaa
95.6
0
A
no
name
marks
next
20
bbb
78.5
A
B

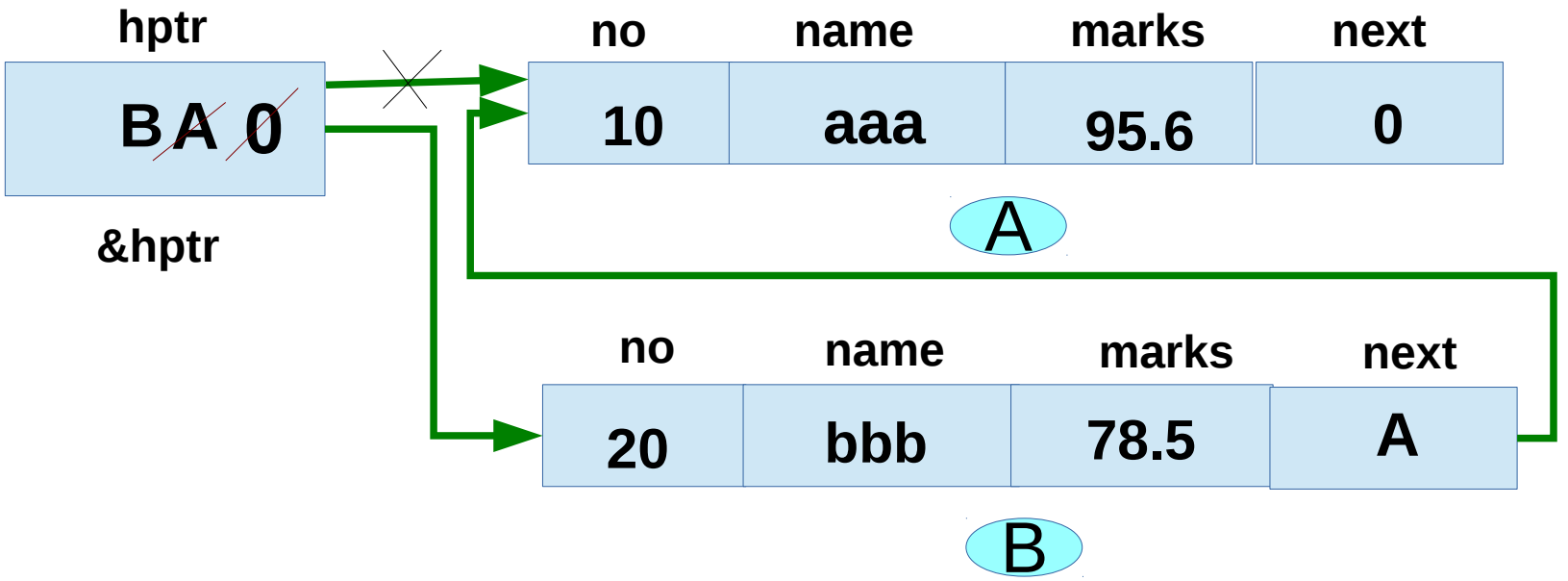
add_begin

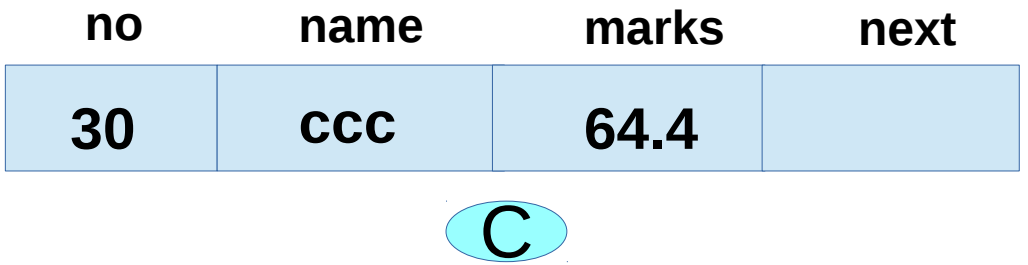




New = C

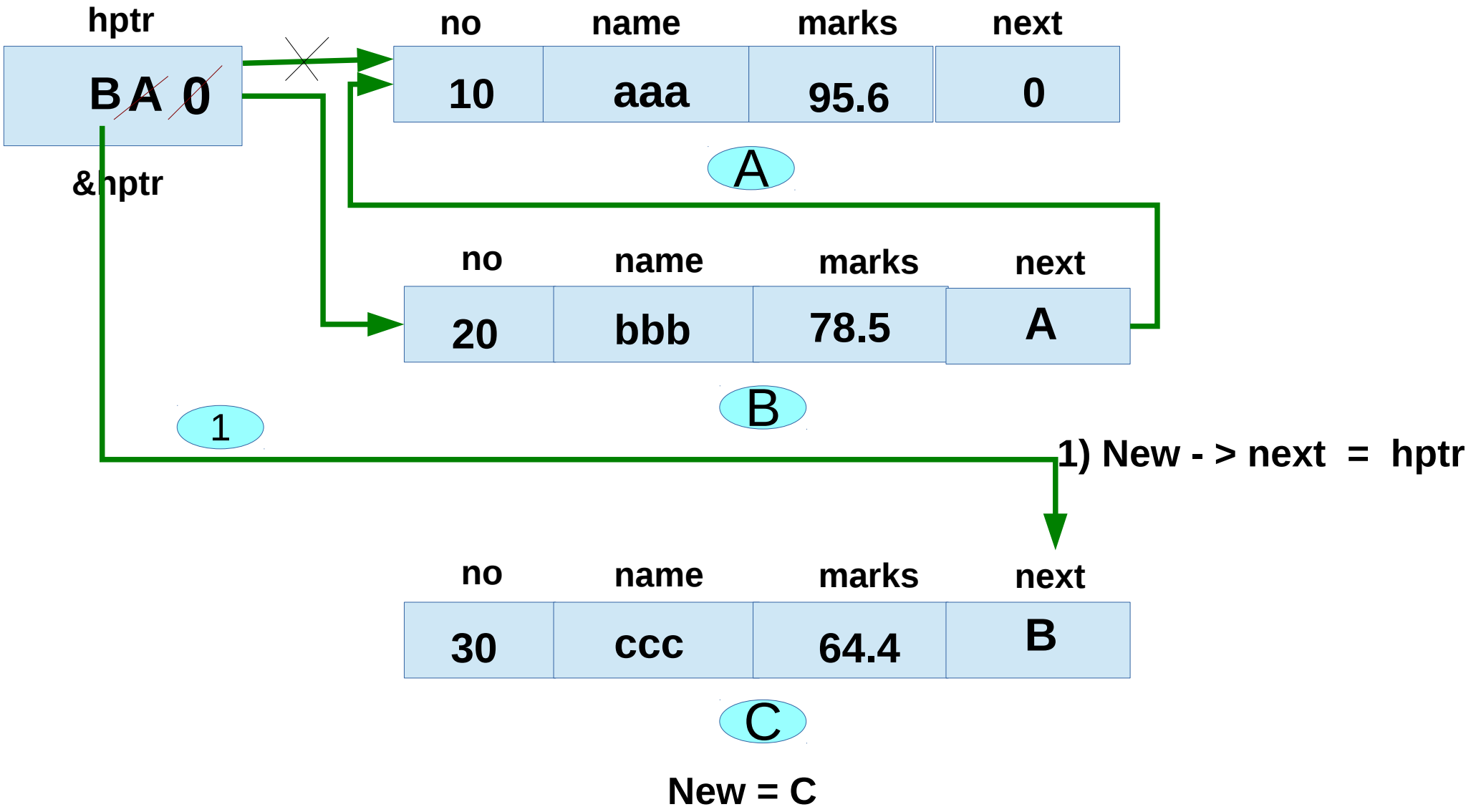
add_begin



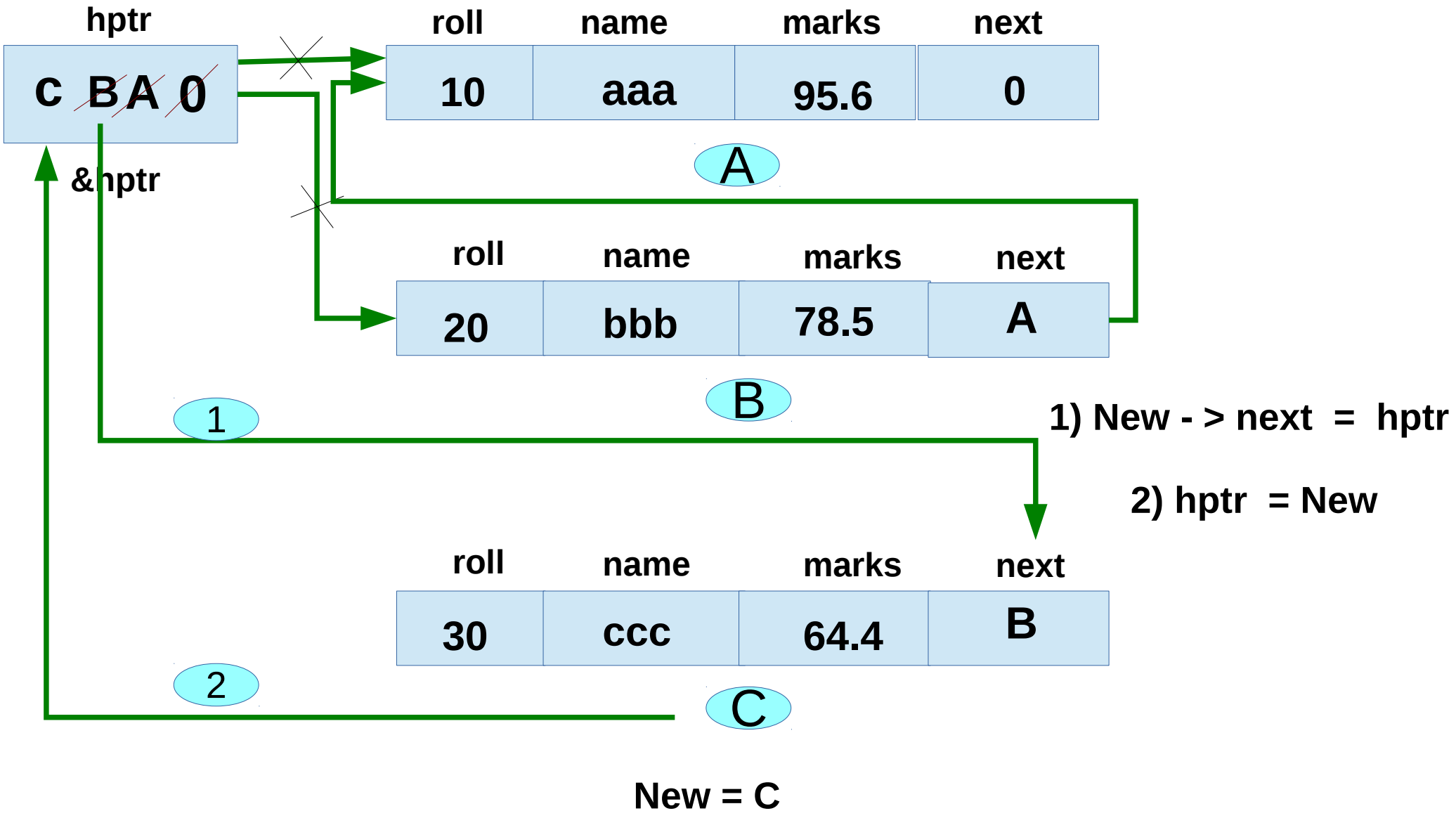


New = C

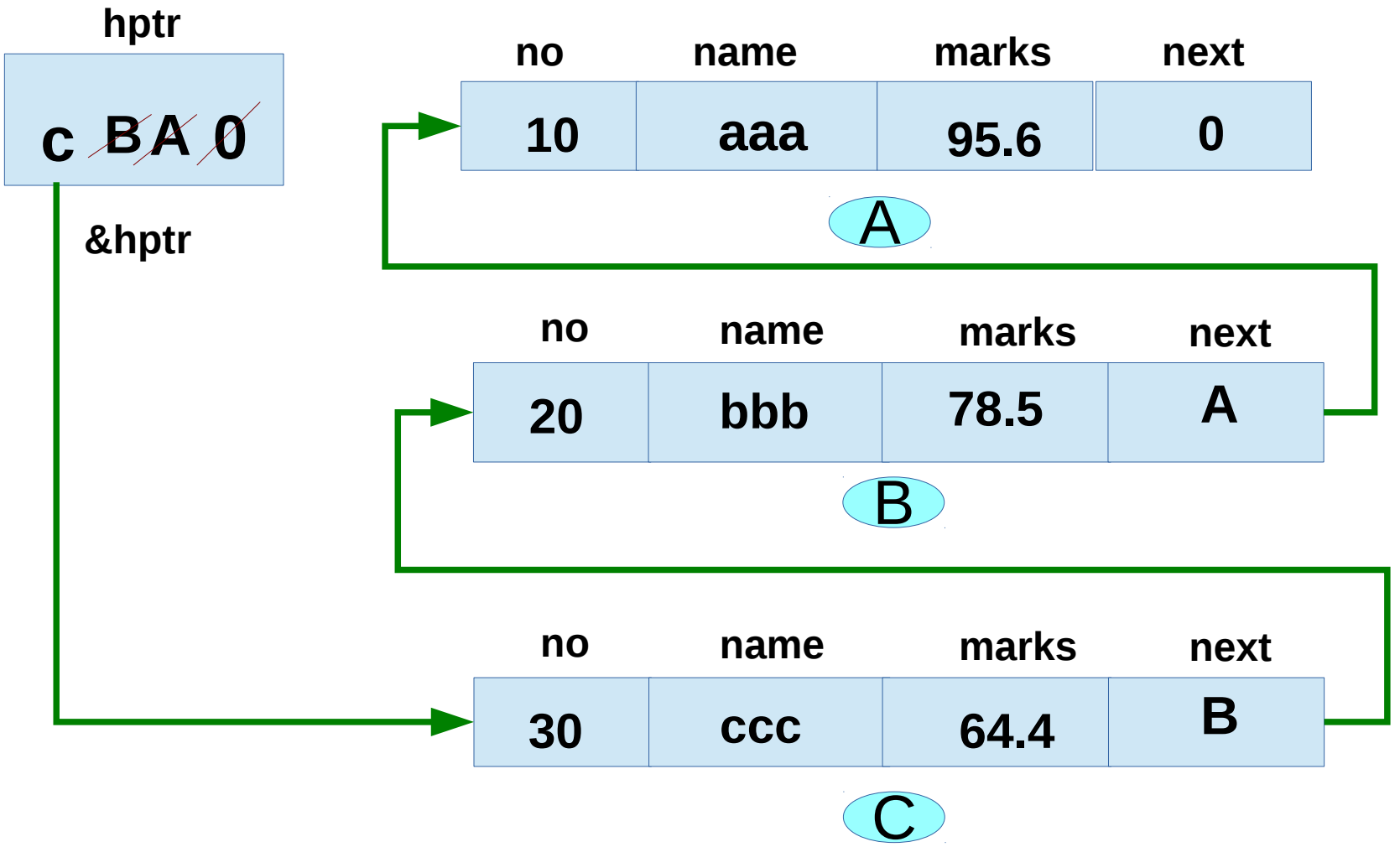
add_begin


hptr
B A 0
&hptr
no
name
marks
next
10
aaa
95.6
0
A
no
name
marks
next
20
bbb
78.5
A
B
1
1) New - > next = hptr
no
name
marks
next
30
ccc
64.4
B
C
New = C

add_begin

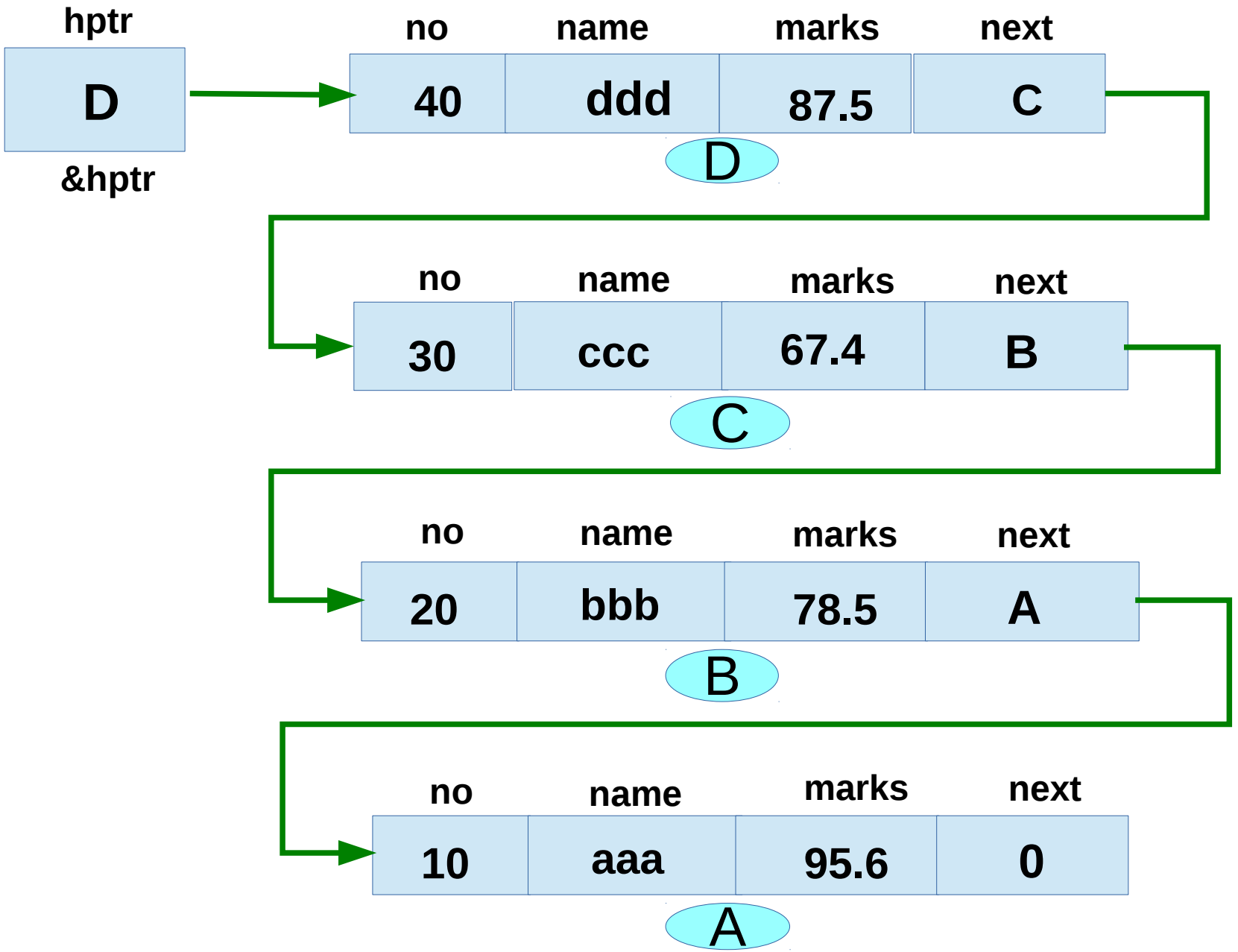

hptr
C B A 0
&hptr
roll
name
marks
next
10
aaa
95.6
0
A
roll
name
marks
next
20
bbb
78.5
A
B
1
1) New - > next = hptr
2) hptr = New
roll
name
marks
next
30
ccc
64.4
B
2
C
New = C

add_begin


hptr
c BA 0
&hptr
no
name
marks
next
10
aaa
95.6
0
A
no
name
marks
next
20
bbb
78.5
A
B
no
name
marks
next
30
ccc
64.4
B
C

In the same way after entering 4 student records

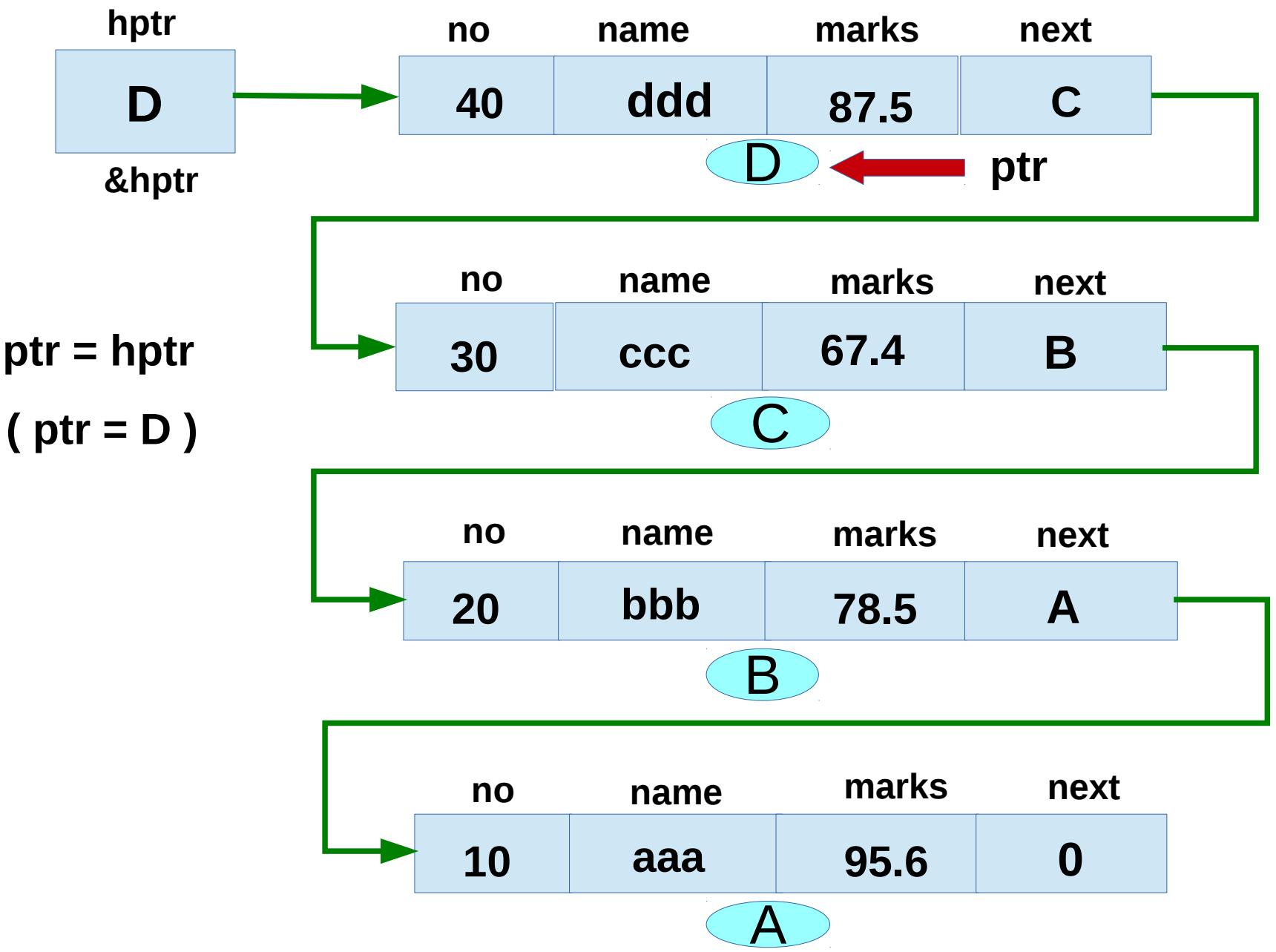
add_begin


hptr
D
&hptr
no
name
marks
next
40
ddd
87.5
C
D
no
name
marks
next
30
ccc
67.4
B
C
no
name
marks
next
20
bbb
78.5
A
B
no
name
marks
next
10
aaa
95.6
0
A

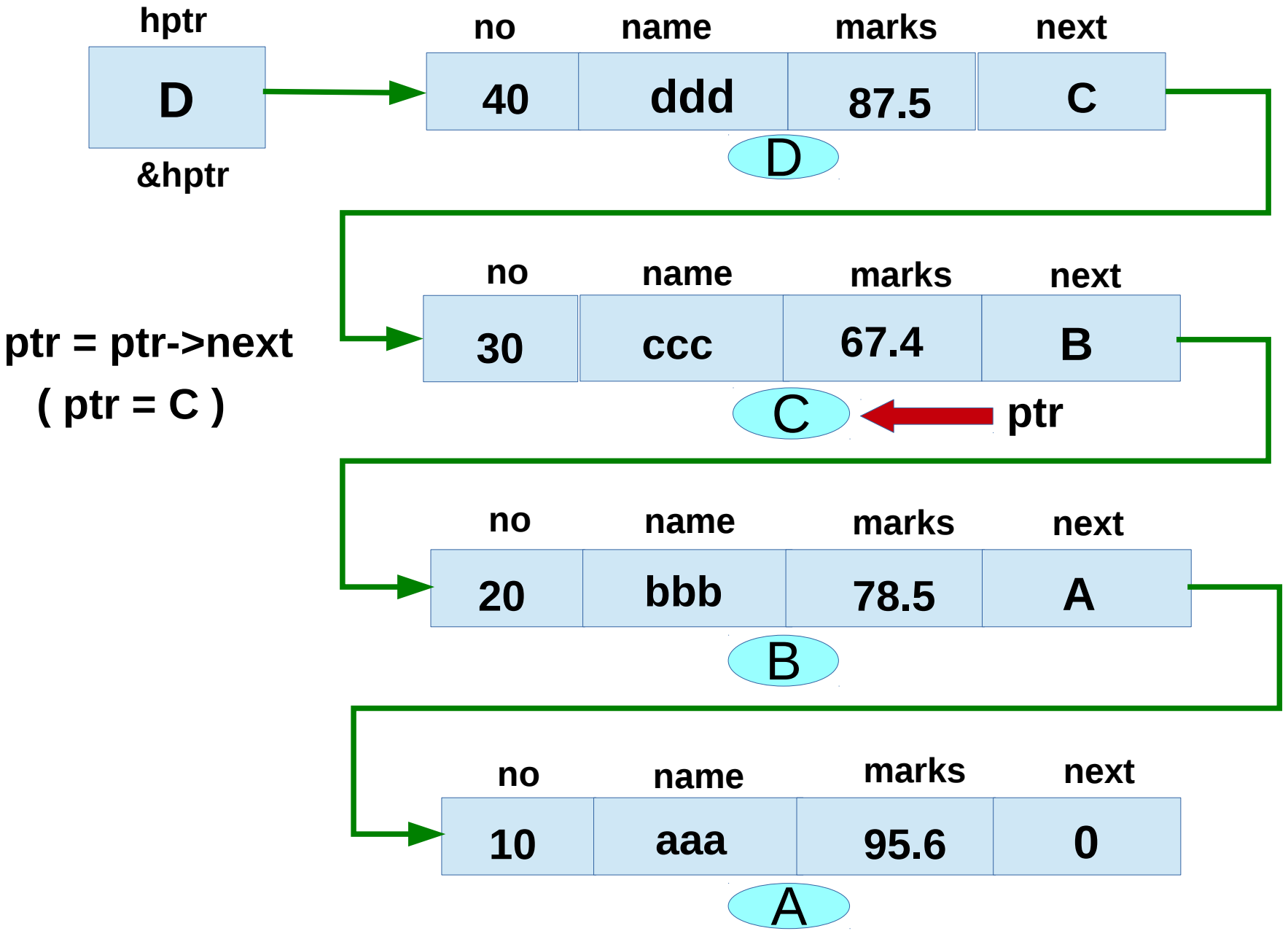
Printing the records

Now if you want to print the students record, then take a pointer (ptr) and point it to the first node address and make it traverse through each and every node and print.

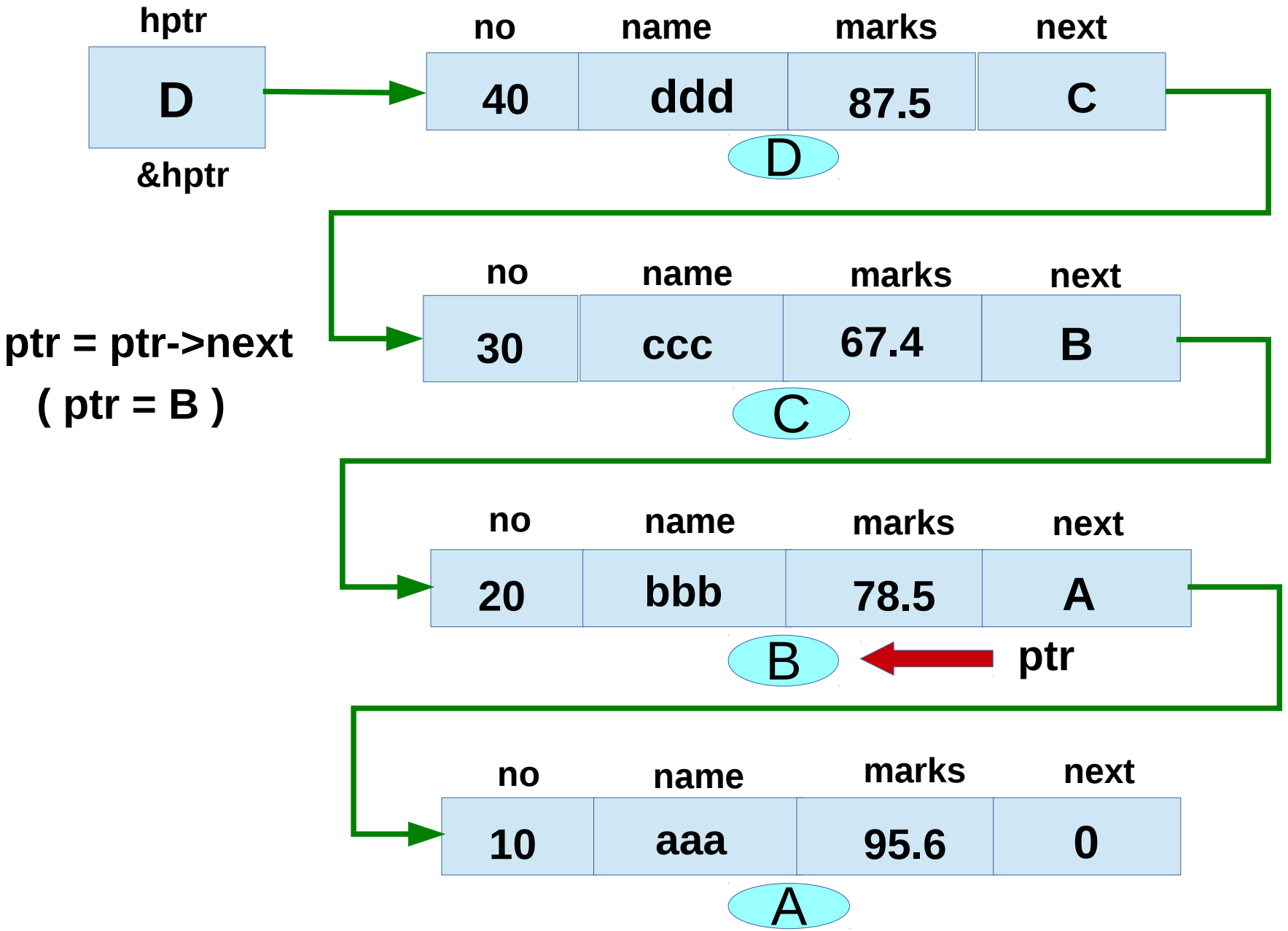
add_begin


hptr
D
&hptr
no
name
marks
next
40
ddd
87.5
C
D
ptr
ptr = hptr
(ptr = D)
no
name
marks
next
30
ccc
67.4
B
C
no
name
marks
next
20
bbb
78.5
A
B
no
name
marks
next
10
aaa
95.6
0
A

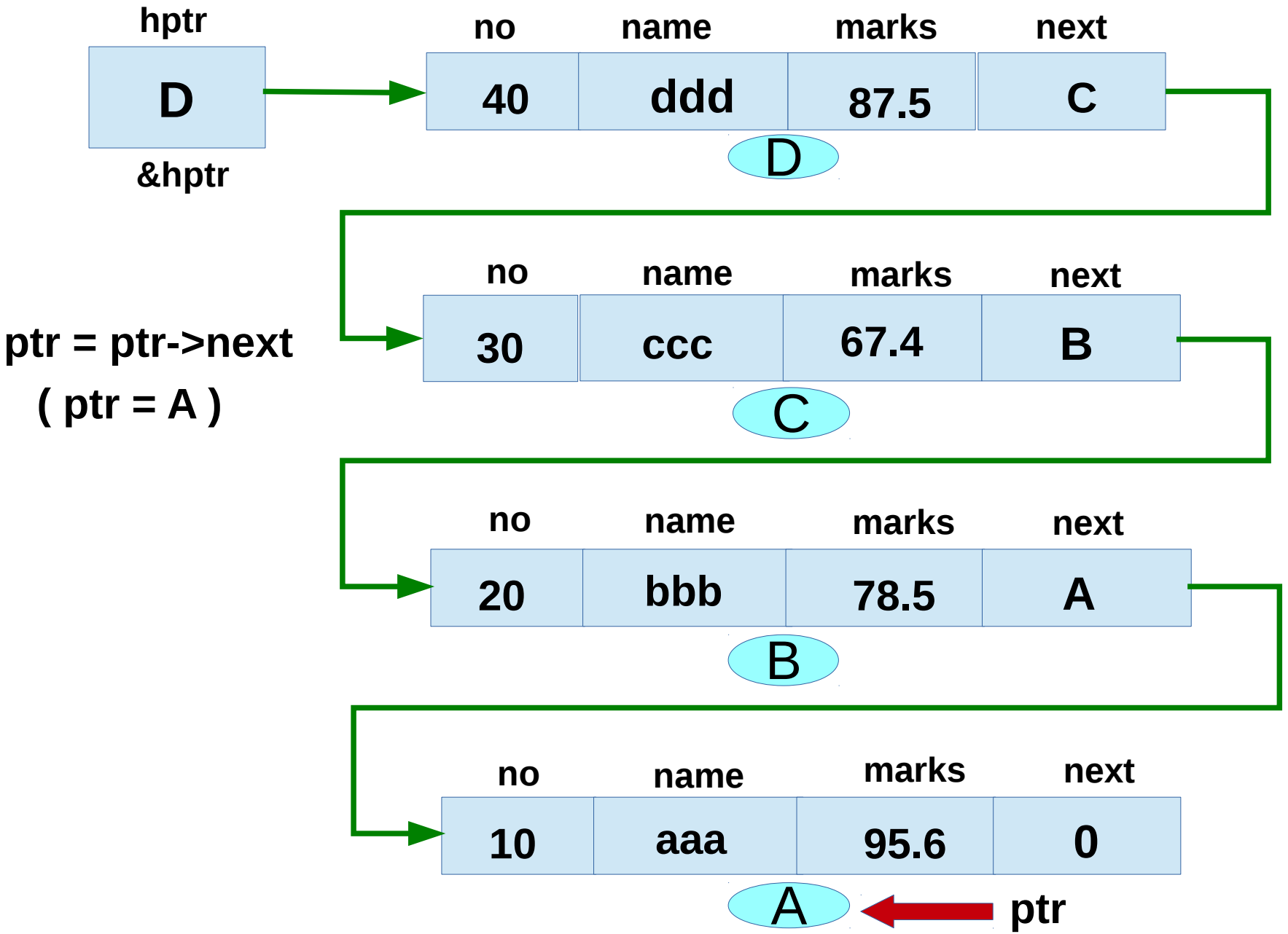
add_begin


hptr
D
&hptr
no
name
marks
next
40
ddd
87.5
C
D
ptr = ptr->next
(ptr = C)
no
name
marks
next
30
ccc
67.4
B
C
ptr
no
name
marks
next
20
bbb
78.5
A
B
no
name
marks
next
10
aaa
95.6
0
A

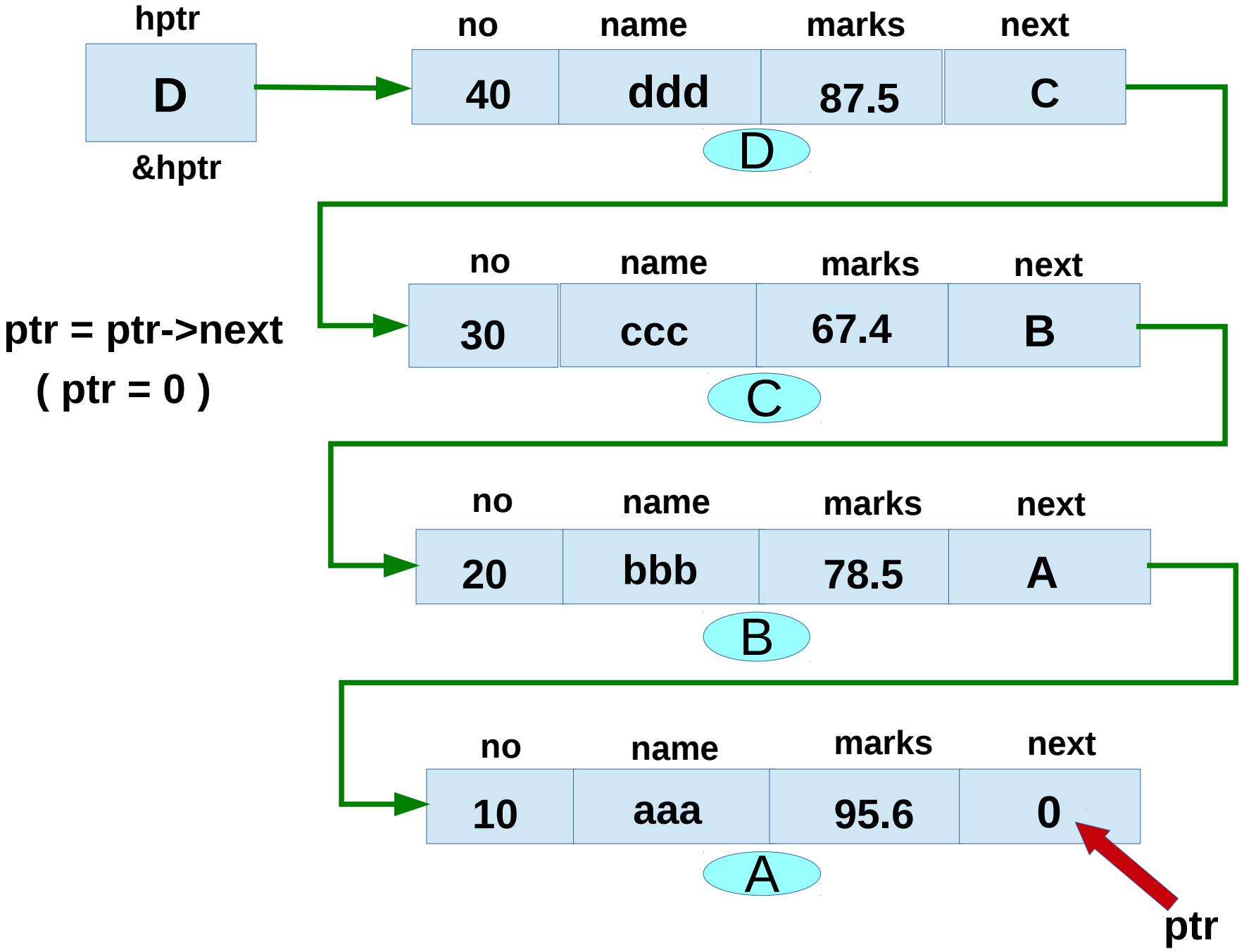
add_begin


hptr
D
&hptr
no
name
marks
next
40
ddd
87.5
C
D
ptr = ptr->next
(ptr = B)
no
name
marks
next
30
ccc
67.4
B
C
no
name
marks
next
20
bbb
78.5
A
B
ptr
no
name
marks
next
10
aaa
95.6
0
A

add_begin


hptr
D
&hptr
no
name
marks
next
40
ddd
87.5
C
D
ptr = ptr->next
(ptr = A)
no
name
marks
next
30
ccc
67.4
B
C
no
name
marks
next
20
bbb
78.5
A
B
no
name
marks
next
10
aaa
95.6
0
A
ptr

add_begin


hptr
D
&hptr
no
name
marks
next
40
ddd
87.5
C
D
ptr = ptr->next
(ptr = 0)
no
name
marks
next
30
ccc
67.4
B
C
no
name
marks
next
20
bbb
78.5
A
B
no
name
marks
next
10
aaa
95.6
0
A
ptr