i>clicker
Session 8
Question 1

Which piece of information related to a student would we choose as indexing key if the information a system keeps about a student is as follows:

- student last name and first name, student mailing address, student email address,
- faculty to which the student has applied (e.g.: Science, Applied Science, etc...),
- programs into which the student has applied (e.g.: Math Major and/or Physics Minor and/or etc...)

A. mailing address  
B. email address  
C. programs  
D. student name  
E. None of the above
Question 2

Why are we using an array as the underlying data structure of a hash table? Be as specific as possible.

A. Arrays are easy to manipulate.
B. Once we have an array index, we can “directly access” the content of the cell.
C. Inserting an element in an array is always O(1).
D. A hash table never runs out of space since we use the “maximum number of elements we shall insert into the hash table” as the array capacity.
E. None of the above
Question 3

I compute the hash table index \( h(k) \) using a folding hash function and I get the following situation:

What happened?

A. A collision occurred
B. The element I am inserting is already there!
C. I can now remove the element.
D. I found the element I was searching for.
E. I can’t say!
Question 4
When will the first collision occur?

Insert the following elements with indexing key value:

32, 47, 26, 34, 87, 39, 78, 61, 48, 66

Hash index h(k):

# of probes:

A. No collision occurs
B. When we insert 78
C. When we insert 87
D. When we search for 47
D. None of the above