

1. In the program x is a character array of size 64 bits.

I made a long int pointer "a" to that points to the base address of x and typecasted x.

Then I added 8 long integers starting with 256. We can add only 8 long integers since the size of one character is 1 byte (8bits) and the size of long is 8 bytes hence 8 characters are used to store 1 long integer. Hence $64 \text{ bytes} / 8 \text{ bytes} = 8$ hence only 8 long integers could be stored.

2. In the second half of the program I used a pointer of integer type to point at x hence added 16 integers starting with 256. We can add only 16 integer since the size of integer is 4 bytes while that of character is 1 byte hence 4 characters are used to store 1 integer. $64/4=16$ hence only 16 integers can be added .