

Initial empty buffer:

\0	\0	\0	\0	\0	\0	\0	\0	\0	\0	\0	\0	\0	\0	\0	\0	\0	\0	\0	\0
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1. Request 3 chars in which to place the string "in "

i	n		\0	\0	\0	\0	\0	\0	\0	\0	\0	\0	\0	\0	\0	\0	\0	\0	\0
---	---	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

2. Request 7 chars in which to place the string "French "

i	n		F	r	e	n	c	h		\0	\0	\0	\0	\0	\0	\0	\0	\0	\0
---	---	--	---	---	---	---	---	---	--	----	----	----	----	----	----	----	----	----	----

3. Request 7 chars in which to place the string "chapeau"

i	n		F	r	e	n	c	h		c	h	a	p	e	a	u	\0	\0	\0
---	---	--	---	---	---	---	---	---	--	---	---	---	---	---	---	---	----	----	----

4. Remove the 3 chars allocated for "in "

\0	\0	\0	F	r	e	n	c	h		c	h	a	p	e	a	u	\0	\0	\0
----	----	----	---	---	---	---	---	---	--	---	---	---	---	---	---	---	----	----	----

5. Request 3 chars in which to place the string "top"

t	o	p	F	r	e	n	c	h		c	h	a	p	e	a	u	\0	\0	\0
---	---	---	---	---	---	---	---	---	--	---	---	---	---	---	---	---	----	----	----

6. Remove the 7 chars allocated for "French "

t	o	p	\0	\0	\0	\0	\0	\0	\0	c	h	a	p	e	a	u	\0	\0	\0
---	---	---	----	----	----	----	----	----	----	---	---	---	---	---	---	---	----	----	----

7. Request 8 chars in which to place the string "sombbrero"

t	o	p	\0	\0	\0	\0	\0	\0	\0	c	h	a	p	e	a	u	\0	\0	\0
---	---	---	----	----	----	----	----	----	----	---	---	---	---	---	---	---	----	----	----

- Will return NULL and not change the buffer because there is not a contiguous empty buffer space of size 8 in the buffer at the current state of the buffer (largest contiguous chunk being of size 7).

8. Request 3 chars in which to place the string "hat"

t	o	p	h	a	t	\0	\0	\0	\0	c	h	a	p	e	a	u	\0	\0	\0
---	---	---	---	---	---	----	----	----	----	---	---	---	---	---	---	---	----	----	----