

HW1

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(a) List all of the input variables, including the state variables.

(b) Define the characteristics of the input variables.

Method	Params	Returns	Values	Exception	Ch ID	Characteristic	Covered by
BoundedQueue	int			Illegal Argument	C1	Capacity > 0	
enqueue	Object			Null Pointer	C2	Add non-null pointer	
				Illegal State			C5
deQueue	state	O element	O		C3	Returns non-null object	
				Illegal State			C4
isEmpty	state	boolean	true, false		C4	Q is empty	
isFull	state	boolean	true, false		C5	Q is full	

(c) Partition the characteristics into blocks.

ID	Characteristic	BoundedQueue()	enqueue()	deQueue()	isEmpty()	isFull()	Partition
C1	Capacity > 0	X					{true, false}
C2	Add non-null pointer		X				{true, false}
C3	Returns non-null object			X			{true, false}
C4	Q is empty			X	X		{true, false}
C5	Q is full		X			X	{true, false}

(d) Define values for each block.

Method	Characteristics	Test Requirements	Infeasible TRs	Revised TRs	# TRs
BoundedQueue	C1	{T, F}	none	n/a	2
enqueue	C2 C5	{TT, FT, TF}	none	n/a	3
deQueue	C3 C4	{TT, FT, TF}	none	n/a	3
isEmpty	C4	{T, F}	none	n/a	2
isFull	C5	{T, F}	none	n/a	2