

### Part3.1

Vals[]

5										
5	9									
5	7	9								
5	7	8	9							
5	7	8	9	20						
5	7	8	9	17	20					
5	7	8	9	17	20	21				
5	5	7	8	9	17	20	21			
5	5	5	7	8	9	17	20	21		
5	5	5	7	8	9	14	17	20	21	
5	5	5	7	8	9	14	17	19	20	21

Keys[]

E										
E	I									
E	G	I								
E	G	H	I							

E	G	H	I	T						
E	G	H	I	Q	T					
E	G	H	I	Q	T	U				
E	E	G	H	I	Q	T	U			
E	E	E	G	H	I	Q	T	U		
E	E	E	G	H	I	N	Q	T	U	
E	E	E	G	H	I	N	Q	S	T	U

### Part 3.2

I would choose binary search because we have more get than put and the time complexity for binary search is  $\log n$  which is less than sequential search (which is  $n$ ).