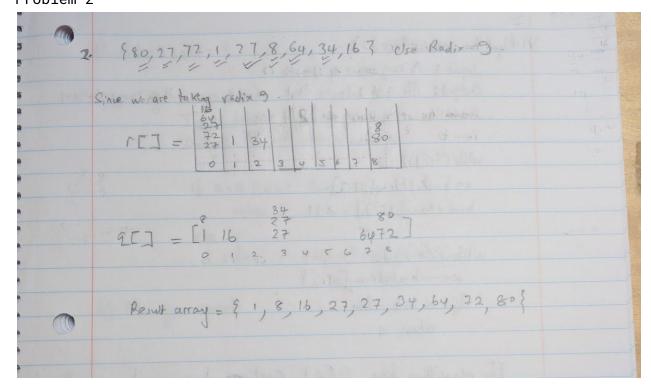
## Problem 1

1.	11	L. L.	the the	do anot as	da
0	H of comparisons	= The drap	in of the	nesport 100	
		= reight o	of the free		
The	maximum no of	leaves = 2			
In	maximum no of 1	of Leaves, L	≥ 2"		
	10)	1	h		
		logL	< 10g 2		
		1	万万里」	L-N.	under of permula
		n	7 195		11
		1	-	, 7	
		h.	7, log1		
			, - log 2	46=24	
		47	, leg ?	41	
			3		
		1 .	_	7	
		n	7 4.584		
				2-	
L	of amparisons	≥.5			

## Problem 2



## Problem 3

T T O D T C III	
	*
7 11	-
Input: A sequence of leads of	-
Tremes of MALN 1	-
Output: The first integer that occurs once in the range of-3n-1	il.
brook of Array of length 3 n	-
ico	-
while (i(n) do	e.
Xx bijoKet Away[Sti]	63.
bucket Array [S[i]] = X+1	68.
	50.
while (icn) do	67.
it - bucket Array[S[i]]	88
if x = 1 then	8
return x	8
The algorithm has O(n) runtime because it goes than	
the bucket array twice at different times O(n) at both	
times making it 0 (20). At the time of creating the	
huxathra it also takes O(n) time:	6
buckettray it also takes $O(n)$ time. $O(n) + O(2n)$	6
Ac. 12 ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )	6
Asymptotic running time is O(n) = O(n)	6

## Problem 4

-	4) f(0)=0, f(1)=1, f(n)=f(n-1)+f(n+2)					
	The Transfer of the present of August 1					
	a) Algorithm fib(n)					
	Input: integer 1 , 10 > 0					
	Input: integer n , n > 0  Output: The nth filmacci number					
	if n=0   n=1 then					
	return					
	elæ					
	return + f.b(n-1) + f.b(n-2)					
	at the same of the					
	LI N Const					
	b) No you cannot					

Algorithm fib (n)

I mut: integer n 7 0

Output: The nth fibonacci number

ac o

b c o

c c o

if n = 0 then

return a

for it a to n - 1

c c atb

b c c

return b