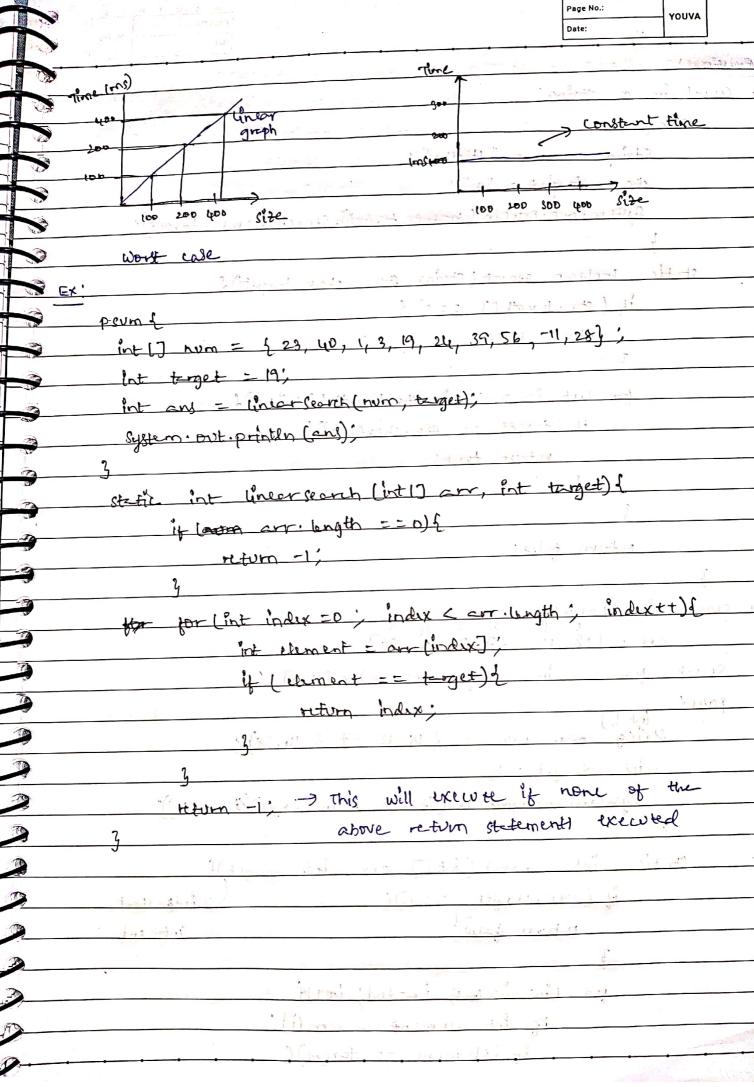
	Page No.:	
AVUOY	Page No.: Date: 12 May 22 YOUVA	
Linear Search:	on with a marine	
Start searching from the first	element till you	
.0	0000	
01234567	gearch for the ext	(3)
find the element that you are looking are - [18, 12, 9, 14, 77, 56, 50] 14 exist at index 3	4 1 42 41	
14 exists at index 3.	, +!	
It no value found return -1	1	
Time complexity! time grows as input	grows	
But case: O(1) -> constant	1	
worst case: D(N) -> site of the	array	
· · · · · · · · · · · · · · · · · · ·	10	
How many cheets will the loop make	in best case	
i.e element found at oth index		
arr= [8, 9, 10 200 items]		-
terget = 8	THE THE	
only the composison in best		
to Charles to the second		
ar = [18, 10,12,		<u></u>
tergot = 18		
there also only I comparison in		
since element is found at oth inde		
nothing to do with size of the	array.	
Hence time complexity in on	e. in best case.	
Worst case,		
we do not find the	traget item af	er o
Sterating/going through every been	•	
Tanal, I a compa		
Site of the array = 100 -> 100 con		12
1 tach => 1-lach	`	
200 -> 200.		
100	10.100 100 - 200	ing C



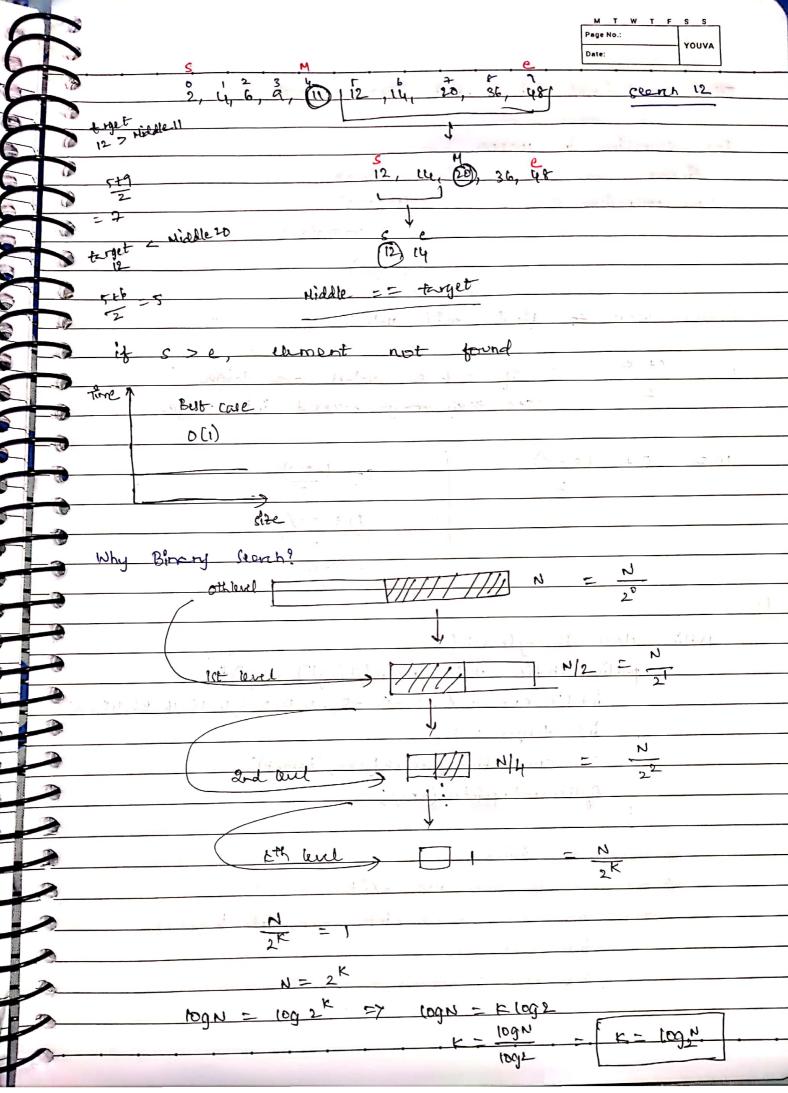
Date:	9
Quittons'	
1. Georgh in a string.	
psingram	
String name = "Harke";	
ther target = "r";	
System-out-println (morne, torget);	
-38 a. a	
Static boolean search (String str, char target) (
if (stribingth() == 0) 1	
return falle, in a said and a fill	
J	
for Cint i-0; ic str. bugth (); it t)d	
if (forget -= str. charAt (i))	
return true;	
1 August 45 mm Mill die 2 mill 22 22	
1/2 · · · · · · · · · · · · · · · · · · ·	
return telle!	
1	
2. starth ton Pargett 2 3 4 5	
arr = (18, 12, -7, 3, 14, 28)	
Search for 3 in range of brank [1,4]	
prunt	
int[] String man num = { 18, 12, -7, 3, 14, 28};	6
· int target = 3'	6
System. out print in (search (norm, torgets), , , (4));	
grant sol print and morn, targetoff, , (9))	
Static int search (intl) arr, int target)	.5
if (arr. ungth ==0){ Sint start,	,
return forten	
for (int i = stat; i+t) of	
If int element = arr (i);	
if (element == terget){	
	•

			<u> </u>	E e e
			Page No.:	YOUVA
			Date:	
	return trae;	· • . · · · · · ·		
42 A B	: <u>,</u>		-, 1, 1	ŧ
	The state of the s	. 1	- 1	
	non the	e' - 1		
	I The British and the	orf to		
4	03. Minimum Number:	e,		
3	poural		J	
	Intil arr = 15,8,24, 3,7,9	, 39}	p.l	
	System out printen (min (cir))		atti n	
	1 a Carrier Committee Committee			1
3	Static int win (int () arr) of		10-14 00	of 11 and
	int and = arr (0); orr		1 4	1.1.12.
	: 311 Martin (1=1) icarriength;	i++){	or the	
	if (xm chrli) Kans).			
	Kalon the constant	= -17	1	
	JATUAL Durch HO - W	· - 1. 118		
	1 West Classen	na) j!	[6.1	
	return and !	Y 3. ~		
	ζ	,5		
	Die; Search in 20 Arrays! Here we	2 ove	rearrhing	and
-	returning	row, col	al arm	·y
	psuma	1200		
	int [][] arr = {	`		<u> </u>
-	£ 23, ce, 13)		" Links	
7	-2,4,13, -(18, 12, 3, 9},	Thinking and	20011	ed a de
	18, 12, 7, 13, 178, 99, 34, 569,			
1	4 18,12 4			
D	318,129			
	0 7			
A	int target=3;	7. // 12:	at 20 10	turn value
	int() and (8) = search (arm target		{row	, cot?
	System. out. printen (Arrays. to String (ins)),		, J
		-		
-0-		······································		

	MTWTFSS	3
	Page No.: Date: YOUVA	6
Pot to towned	-3.5	
static int[] search (int [][] arr, int target	(++) \(\)	
for [int vot = 0; col < arrivow].	nath (oft)	
if arr low][LDL] == to rget;	4 he	
return new net of row, co	e1 } ;	
harm here many	-1001 72 1011 AL . 37	
l.	2 , 1002	
1 160 0 6 0 00 2 2 1 =	Ten Chini	-
return new intl] d-1,-13	og t.2n.?	
1.		- 63
Max in 2D Arrey!	1 14.42	
state int max (int 1717 arr)	min who meger	
int max = crr[0][0] (or) Intege	r. MIN- VALUE;	
for that row =0 ' row a arritrogth; to	w ++)4	-6
for (int colzo', col < curtion) leng	th; 101+t)(
if (max > arr [row](tot])		
if [arr [row](coi) > max){	J.	0
max = antrow] (col);	13(1)	
ž	<u> </u>	
Lea police y son was and in son	10 11 0 0.1	7
DERECT LIFE PRINCIPAL	<u> </u>	<u> </u>
neturn max;	holing	•
<u> </u>	o Cill Ist	
05. Even Digitt	v · 1	•
pothe class EvenDigits	2+1	**
ppino 2	5 . (
integ nume = {12,345,2,6, 7896};	77 h	
system-out, printly (find Number (nums));		
V	· · · · · ·	
chatic int find Numbers (int [] numb)of	B) 10 ML.	
flat, wor int count 2001	· Je · · · · · · · · · · · · · · · · · ·	
for (int rum: num)?		
if (even (nome) f		
-, -, -, -, -, -, -, -, -, -, -, -, -, -		

		M T W T F Page No.: Date:	S S YOUVA
		· ch	
	count et;	1 446	3
	S) here filters	170	<u>^</u>
	return count!		-1
	* 1/2-1-15 PTT 121 -291 m- 29	e.f other	
	Afonction to chief whether a number	contains	wen
	digits or not	1-4	
	Static booken culn [int num) of	1	
	int not digits = digits (nom)		
	int no fdigiti = aight (-s)	·	
B000000			
	(D) (C)	ent no.	of digits
	if (num < D)d	in a wr	nber
	num = num # -1		
	1 into the	•	
	y		
	if (num ==0)-(ĵ	
	return 1/	1	
			1
	int count = 0; while (non >0)d		-
		111000	meson d
	count tt'		
	num = num/10;	× 11	1.21 .1
		11	11.167
	return count!	, 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 5 40
	A ROLL WARE		. 1
	J		
	shortcut to find no of digit!	1 1 1	ho
	static int digits 2 (int rum) 4	<u> </u>	A 24
	return (int) (Math. log10 (num)) +1;	41	11-
	<u> </u>		RF. A.
	· · · · · · · · · · · · · · · · · · ·		· · ·
	in alabet a de surte	113	
		3	

	Page No.: Date:
	See James 1
psum (peron > rous
	account -> col
3	the same of the sa
public int maxwealth (int 1)1)	accounts) {
int and = Intiger: NIN-V	
to the state of the state of	< accounts length, persont)
for (at pinon = 0 ; pental	articles (Sept. 1)
ant was -o;	
	ount < accounts (rewon) length;
TET CITY ACTIONS - PACE	account +t)}
While of the last of Cura of the	
2 SUM = JUM TA	counts [Person] [account];
1	<u>-</u>
f (sura > and) fi	
and - surn',	6-1
,	
5	1 90 50
return and;	
J	
3	was alles
Binary Search!	A Property
Assume sorted arra	A Company C
1. Find the middle element	
e. terget > mid -> search in the	right cide
else search in	-
	•
3. if triget element = middle ele = 123 4 T 6 7 5 7 2,4,6,9,11,12,14,20,36,48	
m= 2	traget = 31
= q S N e	
12, 14, 20, 36, 48	end (did point
a - 5 +9	
= 7	
trept =	== Middle
= 7	



Total comparisons in worst call = logN For rearching in 100000	
For cearching in 100000	
For cearching in 100000	
Cincer Binary Storch	
1 m comparison tog(LDDDDD)	10
20 Compositors	
O (tog N)	
Better way to find mid value	
house to the total of the	
m= s+e of s + e valuel are large	
2 ste they may exceed int range	
(1) 3	
m = s + (e-s) $s + (e-s)$	-11
25+ e-8 2	- Control
$\frac{1}{2} = \frac{\text{Ste}}{2} = \frac{1}{2} =$	
Ex'	
Public class binary learth [
public static used man (stoing [] args) (
150200000000000000000000000000000000000	(N)
int traget = 22	
Ent and = binary Search (are, target);	
System. out. println (ans);	
3	
11 return the index	0
11 return -1 if does not exist	
static int binary rearch (int 1) arr, int triget) of	
int start = 0;	0
ent end = arribenoth-1;	
int enq = arriength -1,	-1
	_

Page No.: Date:	S S
while (start = end)	YOUVA
while (store c = end)	
	10.00
int mid = stert + (end-start) 2;	
it (tract < crrlorid)(
end = mid - 1;	
3 ele if (terget > arr[mid]) [
Stert = mid + 1 to a = 1	
31/elsed-trait + han - lin -	
return mid - Tharmal I	
· him they	
}	
return -1;	
VTHAT > FOR ALL IS	
Making has	
Order - Agnostic Birry Search!	
on Binary search, we assumed array is some	din
and a second of the last	h happers
the order, in that cale we use doish Agnos	tic
Bhory Search.	
TO CHOW THE STATE OF SAT	
arr = [3, 4, 7, 9, 15, 35, 49, 84, 59]	
\$ t	
if s>f > decreasing order	
elle-	
increasing order	1
2 Delie class Order Agnostic BSI	
2 public class Ander Agnostic BSI public static void noing string[] args)	
public static void maind string[] args)a	30, 80Y'
public static void acting (string 1) args) 9 int 1) arr = 1-18, -12, -4, 0, 2,3, (4, 15, 16, 18, 22,	30, 80Y'
2 public static virid raing (thing 1) args) 9 int 1) arr = 1-18, -12, -4, 0, 2, 3, 6, 17, 16, 18, 22, int target = 22;	30, 80Y'
public static virid raing (tring [] args) 9 int [] arr = 1-18, -12, -4, 0, 2, 3, 6, 17, 16, 18, 22, int target = 22; int and = order Agnostic & (1/4 arr, target);	30, 80Y'
public static void rain (string[] args) 9 int [] arr = 1-18, -12, -4, 0, 2,3, 4, 17, 16, 18, 22, int target = 22;	30, 80Y'
public static virid raing (tring [] args) 9 int [] arr = 1-18, -12, -4, 0, 2, 3, 6, 17, 16, 18, 22, int target = 22; int and = order Agnostic & (1/4 arr, target);	30, 80Y'

WAIL 1	Page No.: YOUVA	
		A.
Static int orderAgnosticas (intil) are		
fort start = 0;	2 1 7 1 1 1 1	16
int end = crribingth - 1;	The second of	
I find are in Acc ord Desc	/1 .	
booten is Asc = arr[start] <	Arts W)/	1
white (start ciend)		
int mid = Start + Lend-		10
if (arrand) = - teaget) {		da.
retorn mid;	į į	4
<u>}</u>		6
it (is Arc) a		
if (texpet < arr[mid])		(a)
end = mid-1;	· · · · · · · · · · · · · · · · · · ·	9
3 else L		
in holiss of the start of mid +1;	•	E
Correct the a letter do to the test that		
if (target & arr [mid]	A service with	
Stort = mil +1;	, के रूट ही असू वर्जा	
3 elled	The contract of	6
end = ind-1;	21 12 C 11 3 1 - MW	(A)
<u> </u>	<u> </u>	6
9	\$	
J Three Call reads	C 120 1	
return 1'	A) A	
-: 74 ₁ y -> 5.	of the contract	
	at Appel and the first the first	
- Of agen Of signification is	and with the filler	
than at the still of the city of the	ento (1) fin.	
	. 4	
" (day it is the list side of the land	· · · · · · · · · · · · · · · · · · ·	
The state of the		