	* Totem Interactive * Page No. 1
	:- Developer Assignment Date 05 01 25
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1	Part 1: Hand - written
	Capack defeats Conserver
1.	Algorithmic Thinking:
	Write pseudo-code for a function that finds the first
	n Prime numbers
	9404 8 350 × 31 2010 0 24
•)	Solution
	CTI) rose of the Control of the CTI)
ep 1.	Input Number of Primes (n)
9	a Ask user to input a positive integer (n).
	29029 300
ep 2.	Intialize Variables
	-> create an empty list primes to store prime number
	-> Set "number" to 2, the smallest prime number
ер 3.	Start While Leap 11 24 2012d 2013d
	-> Repeat until the size of the "primes" list is equal to "n"
	1 - P - 196 may spoods of 3, - 301-1
lep 4.	Assume Current Number is Prime
	-> Set is Prime" to True
	Check Divisibility
	-> For each divisor from 2 to the Square root of "number"
400	-) If number % divisor == 0
	-> Set is Prime to Faise and exit the 100p
200	
70	Add Prime to list -> If "is Prime" is True after the 100P, append "number"
1 1	to the "Primes" list.
33	The state of the s

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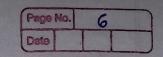
5te0 7.	Increment Number
a Jack	-> increase d'number! by "1".
	Course on the sequent and degrees openation and
5200 8	End While Loop
7	-> Continue until "n" prime numbers are found
£26 90	9 mar? mare to analysis (- mangers () source
	Output the Primes
	-) Display the "primes" list to the user.
	1 15 programme Parlines 1131 30 programmes (2)
•)	Code
2 = M	1 = 1 = 1 = 2 = 2 = 1 = 1 = 1 = 1 = 1 =
	def first-n-primes (n):
	primes = []
	number = 2 3 3 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
	mail inad togat 18 gasa
	while len (primes) 4 n:
	is prime = True
	712 F 13 13 13 13 13 13 13 13 13 13 13 13 13
	for division in range (1, math. sant (number) +1):
	if number / divisor ==0:
	is-prime = False
	break of palation
	485404
	if is prime;
	primes. append (number)
	1000 1 9000 - 0000 100 Rosto
	number += 1
	hardsh and " dam Boars
	return primes

2.	Data Structure
	Queue with engueue and dequeue operations.
	Seep 8 Fee white loop
-)	Solution manua ming of hear made and (+
	Note: 1 Enqueue - Insertion of item from REAR end
	2) Dequeue - Deletion of item from FRONT end!
	noon and or wair anning " and porgation to
•	Pseudo-code for enqueue (Algorithm)
	5000 (e
	10 20 30 Rear = 3, Front = 1, N=5
	0 1 2 3 4
tep 1!	Begin
itep 2.	if Rear = N-1 then print "Overflow & exit"
step 3:	Input new item
Step 4:	Rear + Rear + 1 (Coming) mes elimination
Step 5.	queue [Rear] <- item
Step 6.	Exit
-(1+ Commun sons Hum of) agree is so sino rot
	Regado-code for dequeue (Algorithm)
	soul a sing of
*	10 20 30 40 Front = 0, N=5, Rear = 3
	0 1 2 3 4
Step 1.	Begin
Step 2.	if Front = -1 then Print "Underflow & exit"
Sten 3.	Set item + Queue [Front]
	Front 4 Front + 1
	Print "item deleted"
	Exit
rke	

	Date
•)	Code for enqueue and dequeue
400	on to remove of seminar and specialize original
	# define Marsize 5
82	int queue [Max_Size];
	int front =-1;
	int rear =-1;
	Tuncular tactions (m).
	11 enqueue
	if Crear == Max-Size -1) {
	Print (" Overflow & Exit");
	3 else { (1-12) 10-11-11-11-11-11-11-11-11-11-11-11-11-1
	int input item = input (" Enter a number/element");
	if (front == -1) {
	Front = rear =0;
	y eise {
	7 rear ++ ; (5) 10 resol + + = (6) 10 resol
	Queue [rear] = item; print (" Item inserted");
	3 1111 1150 MSPRTED 1,
	Il dequeul
	if (front == -1) {
	print ("Under Flow & exit");
	Je15e {
	item = queae [front];
	if (front == rear) {
	Front = rear =-1;
	3 e15e 2
	front ++;
	I print ("Item Deleted");
	3

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Recursion mones our survey of soot. (* Write pseudo-code for finding the factorial of number using recursion Brook Marine He Solution Function factorial (n): Else: ("+) 3 & marting ") -fores Return n * factorial (n-1) e) Example ? (1-== mon?) ; -) Find factorial of 4 factorial (4) = 4 * factorial (3); = 4 * 3 * factorial (2); = 4 * 3 * 2 * factorial(1); = 4 4 3 * 2 * 1 ; 1 1 1 1



4. Sorting Algorithm - sorting gridous? Write pseudo-code for Bubble Sort Algorithm Solution Int Bubble-Sort (int arr []) int N = arr.length; int temp; for Cipt j = 0; j < i; j++) { ; f (arr [j] > arr [ji]) temp = arr [j]; arrij = arr fithij = s des gides q arr [j+i] = · temp; .) Note :- Bubble Bort groups grrange the date in the descending order. And gives the output of array in the ascending order.

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5:	Searching Algorithms million A gaires	
	Write pseudo-code for a function that performs wind	
	Search on Sorted array.	my.
	voitated	Co
)	Solution	
	Note: Binary Search is apply on sorted array and i	F 0
	is not corted then we have to sort the array	- 4174g
	apply Binary Search.	nen .
	in mit res	
.)	Pseudo-code for Binary search	
	Procedure Binary Search (arr, n, target):	
	left=0 (11)] roch 1:3	
	night = h-1	
	temp = and till	
	While left <= right: 1] ro = [1] ro	
	mid = (1eft + xight) // 2= 1+1/2	
	If orr [mid] == target:	
	Return mid	
	Else If arr [mid] < target!	
	left = mid + 1	
	Else:	
	· right = mid -1	
3 01	offenda with the first of the agents of the state of the	(*
40.4	descending ander Brid gives the sate	
	Return -1 // Targer not found.	
	arr: - A Sorted array	
	p: - Size of the array	
.)	target: The value to search for.	