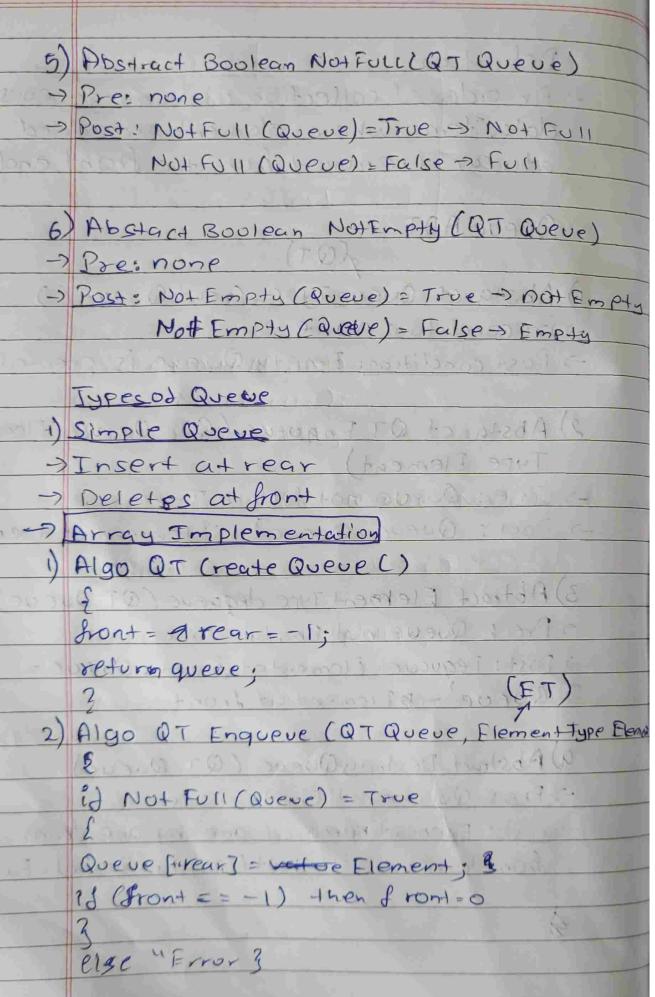
Queue

Definition more and markets -) An ordered collection of homogeneous data items. where element are added at rear & removed from the front end Queve ADT 1) Abstarct Queue Type (reateQueue () - Preconditions none -> Post condition: Empty Queue is created LINE 304360 60000 2) Abstarct QT Enqueve (QT Quevé, Element Type Element) -) Pre: Queve not full = True -> Post: Queue = Queue) + Element at the rear () ALGO OT CITCO ON A O 3) Abtract Element Type dequeve (QT Queve) > Pre: Queue not Empty = True -) Post: Pequeve = Elementat front, Queve = Queve'- B Element at front ALAS DI I MANGE (DI RESE 4) Abstract Destroy Queue (QT Queue) of Pre: Queveranot Empty = True 3 Post: Element removed one by one from Bront to rear till not Empty (Queue) = False





3)	Algo ET Dequeve (QT Queve)
	2 - College Along Along Along
	id Not Empty (Queue) = True
	ftemp = Quevelfrond);
	id (front == rear) then front = rear = - 1;
	else front ++;
	return(temp);
	3 (190900 97091) 10 0014(1)
4)	else "Error"3
4)	Abstract Destroy Queve (QT Queve)
	Lid Not Empty (Queue) = True
	white (Not Empty (Queue))
	Point Dequeue (Queue);
4 14-	elsel'Error"3 susona 70 (s
5)	Abstract Boolean Not Full QT Queue)
5)	Abstract Boolean Not Full (QT Queue)
5)	Edward Reference Control of the Cont
5)	il(rear 1= Max Size -1)
5)	il(rear 1= Max Size -1) return Tree;
5)	it(rear != Maxsize-1) return Tree; else return False;
	illorear 1= MaxSize-1) return Tree; else return False; 3
	it(rear 1= Maxsize -1) return Tree; else return False. Abstract Boolean Not Empty (QT Queue) &
	it(rear 1= Maxsize -1) return Tree; else return False. Abstract Boolean Not Empty (QT Queue) &
	it(rear != MaxSize-1) return Tree; else return False. Abstract Boolean Not Empty (QT Queue)
	it (rear 1= Max Size + 1) return Treve; else return False. Ab Stract Boolean Not Empty (QT Queve) for (Front != -1) return True; else return False;
	id(rear != Maxsize LI) return Treve; else return False. Abstract Boolean Not Empty (QT Queue) for (Jront!=-1)

->	Linked List
	Struct Node Type
	{ Let's call it
	ET Flement; SNT
14	Node Type * Nexto;
	3
	Maria
)	Algo QT Create Queue ()
	P CIECUTE CHILDRIA
(Busine)	create Node (front);
	Create Node (rear);
	front = rear = NULL; all getter
	3: (30366) 300000000000000000000000000000000
2)	QT Enqueve (QT Queve, Node Type New Node
	\$
(4.55.4	if (front= = rear == NULL)
	E CONTRACTOR OF THE CONTRACTOR
	New Node > nex+ = NULL;
	Front = rear = New Mode;
استخيبانا	& Checker with a straight of the straight of t
	else rear > Next = New Node;
1/52017	rear = New Node
	3 The second sec
3)	Algo ET Deaveve (QT Queve)
	21 (8
	?d (front = = rear = = NO11)
	Préns "under flow";
	exit;

else & creal blode (Temo); Temp= front; front = front -) next; ?d (front = NULL) rear=NULL; retorn (Femps data); 4) Abstract Destrong Queue (QT Queue) & if Front == NULL print "underflowlight exi+; elsendrod august of the Create Node (Temp); While (Not Empty (aseve)) return DeQueve (Queve); 4-1 FROSE DE THE DESTRUCTIONS 5) Abstract Display Queve (QT Queve) THE TRANSPORT FOR THE PERSON OF THE PERSON O i) front == NULL [] 3 87 50 9697 print " Error" () I NOW else 8 create Node (Temp); Temp = dront of some of the While (Temp 1 = NOLL) print(Temp -> Data Temp = Temp -> Next; 3 in out and Change though the self CAR BOOK 98/0

1.5

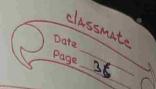
2) Circular Quebe Flast wode is connected to first Node -) Deletion at front -) Insertion at rear. -) [Array Implementation] 1) Algo QT Create CQueue(). front = -19 1000 A 200 15 100 11 0 Fear = -13 reforn queve; 2) Algo QT (Engueue (QT CQueue, ET Eleman if Not Full (Queue) = True id (rear == Size = 1 && fron+ 1=0) rear 20; 3 3000 (5 9 3 10 1 5 5 5 5 Clsp rearz rearti; (Queue Trear]= Flement; id (front=2-1) then front=03 Else " Erroru; 3) &Argo ET & Dequeve (QT (Queve) & il Not Empty ((Queu) = Trues "L+emp= (Queve Edron+3; 18 (Front = receir) the in front = rear = -1; else id (front = size -1) the foo not = 0; Else front ++;

retorn (temp);		
	3	
	Else "Error" Dusulation Foldala	
	3	
4)	Abstract Destroy Queup (OT Queue)	
	fired toole (see):	
	id NOH Empty ((Queue) = True	
	while (NotEmpty(cavece))	
	print Dequeve (Queve)	
	else "Ervor	
	13 CLIUIN ESTROPHED AND STATE OF	
5)	Abstract Boblean NOTFULL (QT CQUEUE)	
	ET E DOORED SY EN FRANCES EN	
	i) (rear = Size - 1 && front = = 011 rear	
	== front == - 1) hours	
	return False; of lamp) slide	
	else returnTrue;	
	2 Leng = Lemp = Lemp = 1	
	Abstract Boolean Not Empty (QT (Queve)	
	Entropy of the property of a took of the	
	id (front!=-1) 360016000 = x000	
	return True;	
	else return False;	
	3	
	Ciscal Engres Brook 167 En 18	
	The state of the s	
	The state of the s	

とうでくらんかりからからうか > Unked List 1) Algo QT createQueve() Create Node front); create Node (rear); front = rear = NULLS 11 (MONT MET WED BOURS THE 2) QT Enqueue (QT (Queue, NodeType Now Hode) if (front == rear == NULL) dront = rear = New Node; rear-> next = New Node; else = 1700 & & 1 = 0512 = 7071) (1 temp = front; () While (temp! = rear) 2101 110406 temp=temp->next; temponent=NewNode; homed NewNode > next = rear -> next; year = New Node; (1-11-North) r Churn True 5156 126 10 1010 10100; (front = = rear = = NULL) front = rear = New Node; rear > next = NewNode :

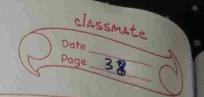
else land accordance as a rear - 2 next = New Node; rear = New Node; 1000) Newhode -> next= dronts TOOLER LEAD TO THE SHOP ASSESSED ASSESSED ASSESSED TO THE SHOP ASSESSED ASSESSEDAD ASSESSED ASSESSEDANCE ASSESSED ASSESSEDAD ASSESSED ASSESSED ASSESSED ASSESSED ASSE 3) Algo ET DeQueve (QT (Queve) id (front = 2 rear = = NULL) Print"Underdlow" exit; comercialization of else if (front == rear) & temp = fronts front = year= NULL; return (temp > data); plse & temp= front; front = front -> next; rear -> next = front; return (temp > data); 4) Abstract Destroy Queue (QT(Queue) if front == NULL Print " under Slow"

exit;



Else & create Node (temp); while (NotEmpty (caveve)) return (DeQueue (coueue) is terrore showing Abstract Display Queve (OT Queve) Survitor De Delacolo Par Paronia ? Sont == NULL Drint ((Estoria Losses word)? else In the dwolf wish of the 2 (reate Node (Temp); Temp = frontsoon in the bis 3210 While (Templ=NULL) + 900) Print (Temp >data); Temp = Temp > next; temp to the Troot and CHANGE FOUR HOUSE = POOK! > 601 - 200x - 4200-1311 actorn (temp adata); COUNCED TO TO SHOULD DUST TO HOUSE AND CALLOW TOWN world by only by the

3	Doubly ended Queue
->	peletions & insertions can be done
	at both the ends.
->	Hastwo pairs od fronts & rears
->	Array Implementation
)	Algo QT Create D Queve ()
	Emple Table (Dela Elevorida)
	front 1 = 1; (woll ob virus)
	front1 = rear 1 = -1;
3	front2=rear2=-1;
	Return Daveve, Alsons and
	3. Strong Exone Strong : Etrong
2)	Algo QT D Enqueue (QT DQueue, ET Element,
	Intend)
	#2 10 10 10 10 10 10 10 10 10 10 10 10 10
	if Cend == 2 a rear 2 == 0) then Left End = Fulls
	exit:
	if (end == 1 & rear 1 == max-1) then Right End
	then Right End=Full; 200000 mg/
	exit; standard - strong
	id (rear 1 = = -1)
	Letter (Lemis)
	front 1 = front 2 = rear 1 = rear 2 = max/2;
179	Alveve [sear 1] = elements
	3
	else ? (end==1)
	DQueves++rear 1] = elements
II.	front 2 = rear 25) 10 10 pg

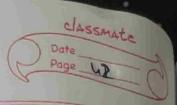


else if (end == 2) Daueve [-- rear2] relement; front 1 = rear 2, 3) Algo ET Dequeve (QT DQueve, intend) Place Of Create Dona id (fron + 1 = = 1) then under stows; exit; id (front 1 == vear1 = = front 2 == vear2) 5 temp= DQueue [front 1] Jon+1= front 2 = rear 1 = rear 2 = -1. 311 DURAGE (QT DQUEST TO COIA) else if Cend == 1) 2 temp = DQueue [front 1] front ++ , fear ++ 100 x A S == 600) 63 else?] (end == 2) { >> / 1 = 6,9) / 1 temp = DQueue [front 2]; 1009 1014 fron+2--, rear 2--; retorn (temp) 3001 = 3 +00 x - 1 +001 = 5 +00+ = 1 Anox 4) Abstract Destroy Queve (QT DQUEDO) id Not Empty (Doveve) = true while (NOTE mpts (DQueve)) Print Dequeve (Daveve) else " Eropy"

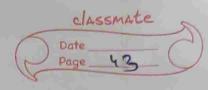
5)	Abstract Boolean Not Full (QT DQueue)
	9
	? d (0 front f = 10 11 rear & 12 (size - 1)
	seturn Frue;
	else return False,
	grand of a ministration of the state of the
6)	Abstract Boolean NotEmpty (OT DQueue)
	January States of the State of
	id (front 1!=-1 (1 front 2!=-1)
	returnitrue;
1.873	else return False;
	3
	March Art E-Miller (Wirthmann - Aliza - I.
	Casher Donald
2	Front & rein & Short 2: Tour 2: Now Will
	Ballowell of November of Colors & Station Live
	Fill Control of the state of th
	Teller State at Thomas Haward & State
	The Feliphon Son Stability
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	PRODUCT OF THE PROPERTY OF A STANDARD L
	For a first - I the first ten to see the Land
	THE THORIES ASSESSED TO STREET THE

-> Linked List SNT 1) Algo QT (reate Queue() Create Mode (Front 1); (reade Node (rear1); Create Node (Stont 2); (reatenade (regrz); front 1 = rear 1 = front 2 = rear 2 - NULL. 2) QT Enqueue (QT DQUeue, Node Type New Nodes intend) id (rear 1 = = NULL) Front 1 = rear 1 = front 2 = rear 2 = New Node; else id (pnd=-1 rear -) next = New Node; front 2 = New Node; reard : New Node; else id (end == 2) NewNode -> next = raarz; rearz = NewNode; front = New Node;

```
3) Algo ET Dequeve (QT Dqueve, intend)
  ?d ( front 1 == NOLL)
  print "UnderStow"
 exit;
  else id (fron $1 == rear 1)
  temp= dront 1
  front 1 = rear 1 = front 2 - rear 2 = NULL:
  return(temp=>data);
  Else id (end == 1)
 temp = front1; A los las of tomo of A la
  front 1 = Bront 1 -> next;
  sear 2 = dront 1 or ( rear 2 = rear 2 -s next)
  reform (temp-) data);
  3 (NOW = HASTON)
  Else id (end == 2)
  temp='food2100=11.50000) 311100
  templ= dron11 1000 1000
 while (temp2 -> next 1 = front2) }
  temp2 = temp2 -> next; & 11 LOOP
  rear 1 = temp2;
  frontz = +emp2;
  rear 1 -> Mext = NULL
  return temp->data);
  3
```



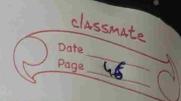
.47:	O - COT DOMO I
W	Abstract Destroy Queue (Qx Diqueue)
	id (front1 = = NULL)
	Print "under flow"
	Else Line
il le	\$
	createNode (temp);
	While (NOT Emply (Daveve)) 2
	return (Dequeve (Daveve, 7));
	3 (Market) (1) 2013
	3
5)	Abstract Display Queve (Q7 DQueve)
	2 mont stranger to track to track
49. 4	Create Node (current) [Front to Rear)
	Current1= front1
	if (Current= = NULL)
	11 Eroor 4 1 1 1 1 5 5 5 6 9 2 1 9
	else {
	While (current1=NULL)
	print currently days,
	Corrents corrent next 3 Corrent 1 = Corrent 10
	3 will the world of defent to a global to
	3 - while the state through to track the
	2
	Contract of the second of the
	create Node (currentz); [Rear to front]
-	current 2 = frontz;



	12 (Current2 = = NULL)
	"Estor" To Mala Mala
	else t
	while (corrent 2 = = NULL)
	print corrent 2 -s datas
	current 2 = corrent 2 > next;
4	3-3-3-4-5-5-1 0 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	300 1 10 10 10 10 10 10 10 10 10 10 10 10
	The Bush Sales Successful Al Holly Co.
	HERE SAND CONTRACTORS IN THE SANDER OF THE
-	Colored & Strattle Rose of the Property of the
	THE SURVEY STATE OF THE WORK OF THE
	- Array implementation
	A Charle Couck for the second for
	The stable of the factor of th
	AND THE PARTY OF T
	Franzisch Polymore 2008
	1) Place QT Corate Process
	Book Exercise
7.6	B Algo OT & PERguero (OT Pavene 177 i more)
	Essue 4 Pridospore Aceus
-1	Black = = 140 9512 c - 1) then Over 100 c - c -
	resent (boot reason)
	Control of the Contro
	there is a state of the constitution of the co
	The state of the s

4	Priority Queve
	Every element has prodefined priority
1,4	Max Driarity -> Max Priority element removed
	Man Poliority > Min
-	Debinition Desiration
	Acollection of heterogeneous elements
	accessed in FIFO manager where in
	each element has an additional
	priority associated with it.
7	Types
	Min Priority Queve - Smaller no, higher Prioriply
0	max " - Largerno°, " 4
	Array implementation
P	Struct PiQueroe {
+	infdata;
	int priority;
	3
	Struct BiQueve PQ[Maxsize];
1)	Algo QT Create & PQUEUE ()
	5
	front = rear = -1;
	3
2)	Algo OT & P Engreve (OT PQUEUE, ET Element, intp)
	2 Struct PriQueue Key;
43	id (reur = = maxsize-1) then Overdow; exit;
	else id (front = rear = -1)
	& front = rear = 0;
	Pasreurz.data = Element;
	Pareard Priority = P;

efelse & management of the & year +1; Pa [rear] data = Flement. PQ [rear] . Priority = P; Key=PQ[reur]; 1=8ear-1; While (j) = 0 && PQ[j]. Priority < Key. Priority) S. GA TONING TOLK WISHBOR LYDIZAGIS PQ[]+1]=PQ[j]; 11 (front 1 18 20cm 1: 000 500 1) PQLI+17= Kew: 3) Algo ET Dequeve (OT Paveve) & Struct Pri Queue Temps id (front == -1) then underflow; exit; if (front = 2 rear) Femp = PQ[front]; front = rear = -1; else Femp = PQSfront]; front 1+; return (Femp);



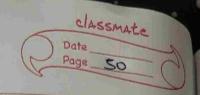
9)	Abstract Destroy Queve (OT Paveue)
	E STATE OF THE STA
	id Not Empty (PQueue) = Frue
	While (NO+ Empty (Pavece))
	Print Dequeve (Paveve)
	elee (Error)
1.01	3 3 x x 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
5	Abstract Bublean Not Full (QT Paveve)
	2 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	id (front=10-1 & rear 1 = Maxsze-1)
	return True;
	else return False;
۵ ۱	01-01-01-01-01-01-01-01-01-01-01-01-01-0
0,)	Abstract Boolean NOTEmpty (QT PQUEUD)
	id (front == -1) 10 10-11- (1-10-10)
	& return True;
	tet else return false;
	3 : [hab 1] @9 = 9mo F
	from a rear and
	15 To
	The state of the s

)	Linkad List
4	Stract Node Type?
	ET Element;
	integer priority,
	Nodetype next;
	3 Silver and Silve
1)	Algo QT Create Queve ()
_	Reference to the second
	create Node (from);
	Creute Node (rear);
	front = rear = NULL;
	3 Hart Beat Wood as we'd all the
2	Algo QT Enqueue (QT PQueue, NodeType
	NewNode, intP)
	5
	id Grear == NULL) Il diretinsention
	Front = rear = New Node;
	else id (front-) Priority > New Node > Priority)
	ENewhode -> next-bront: 11 Before Bode
	Front = New Node;
	3
	else
	Book Love to see Land
1	temp= dront; Dourrent = NULLS
	While (temp -> prioriety a New Node -> Priority
	28 tenop > next! = NULL)
	current = temp; temp = temp > next;



it (temp -> prioripty > New Node-> Prioriety New Node > next = temp; // In Between Current > next = New Node; (d (tem P > next == NULL) temp > next = New wode; rear = New Node; TO AMOUNT STATE OF COMMENT 3 Algo. ET Dequeue (QT Paveue) it (front == NULL) Print " under \$10 w" exit; DURUPEUR (QT PROUPLE) Else id (front = = rear) his about and temp=front; \ () () UUM == + 097) (front= sear = NUCCIONE TOOK = ANONS return (temp>data); and) 19 · Knock Langue about with else TABOUTE FROM temp = front: front = front > next; return (temp-solata); 3 - Maria Stanger - among alived 3 - Counter this are south 88 correspondence tent stemper oc

13	a A 6 State of Destroy Queve (QT PQueve)
4)	Residence of the second of the
	if Grant == NULC)
14	in Spont - 10022)
153	Bint "Under \$10w"
	6×4×2000 0001 21201 24 20000
	PICE STOR TOWN THE STORY OF THE STORY
13	STUDIOS CONSTONATION PROMINE
	Create Node (temp);
	While(NotEmpty (Rqueue))
	retorn (Dequeve (Pavevel);
	3 touter down the
	3
E	Abstract Display Queue (QT PQueue)
9,	S
	idtont==Nucl
	Print "Foror"
	exit;
	else
	26
	Create Nude (Temp);
	Temp=Jsont;
	While (Temp!=NULL)
	Print (Femp-) data)
	Temp=Temp=next
	2
	3



u	Catagory	Stack	Queve
	Definition	Tikalinear ds	It's a line
		It's a linear ds	1744 10110
		(last in first out)	The state of the s
		where the last element	With the state of
		added is first removed	darage 3 dicol
1	Primary	Push (add to top)	and add to
	Operations	Pop (Remove)	pequebe cremove to
	Usea	Backtracking	Brs algorithm
		Reversing 1 2000	lask schooling
		Call stack	Network reques
41			

PASTECT DISPLANDURE COTECUCE

Hont " Force"

HIVS.

25/9

Create Node (70mp):

(Jule (remp) more)

Print (Temp -> choto)