	Assignment	between DFS and BFG?
->	00	BFS
1-	It stands for Depth First Search.	It stands for Breath first Search.
2-	It use stack to find Shortlest path.	It uses Quere to find the Phostest path.
3-	Dipketten oher farget	It is ketter when target
4-	It is faster Hoan BFS.	It is ketter when target is closer to Source. It is slower than DPS.
5-	Complexity: O(V+E) Applications of DF	Complexity O(V+E). S:
*	Ty we perform DFS then it will created for all pain show	on unweighted graph to minimum spanning tree test path tree.
*	We can detect e DFS. If we get one then there must be	ycles in a graph using back-edge during BFS, one cycle.

	Date
	Page
	PAG
*	Using DFS: WI can lind both between trun winds
	Using DFS; we can find path between two given vertices u and v.
FERSE	1- What is deliner between 1-1
	Application of BFS:
X	In keer-to-keer network like-kit torrent.
	In fler-to-pear network like-kit torrent, BFS is used to find all neighbour rodes.
X	Using GiPs nevigation system BFS is used to
	bleing GiPs newigation system BFS is used to find neighbouring places.
	8
*	In networking, other we want to broadcast
The state of the s	In networking, other we want to broadcast some packets, we use the BFS ag algorithm.
	CONTRACTOR PROTOTOR OF THE PROTOTOR OF THE PARTY OF THE P
*	BFS used in Fork - Fulkerson algorithm to
	BFS used in Forth - Fulkerson algorithm to find maximum flow in a network.
Contract to the second	
2-	What Data Structure are used to implement
	What Data Structure are used to implement BFS and DFS, why?
->	The Data Structure used in BFS is a
	Queue and a graph. The algorithm makes
	sure that every rode is visited not more
	than once. here to the to
	It is used Queue because to semember to
	get the next vertex to start a search, when a dead end occurs in any iteration.
	a dear end occurs in any assure

			Date
	Page		Page
	The data	Structure u	and by DPS
	is Stack d		
	It uses stack		
	keep tracking	on the curre	nt noch it seguire
	last in first		
	implemented b		
Adapp	the depth of	//	
, ,	hodes vill 8	bi koppiel	out of stack.
	Next it search	is for adjac	ent node obich
Advis	are not bisite	A / /	de ditto
	1	00	T pilos
3-	graph whe	mean by Sp	arse and deuse
vertex	graph whe	ch seprelentat	ion of graph
two with	is better to	1 sparse and	dense graph?
		AND CHARLES	
-	Pourse graph	is a graph	in which the to the minimal
640 6 0	humber of	ledges is clas	e to the minimal
	number of a	dges. Sparge 9	Baph can be Le pane indicates
	dieconnected	graph . As of	Le pane indicates
TAS MESSAGE	sporse graph	are sparsely	connected.
	to the second second	AND A DATE OF THE PARTY OF THE	
	Dense graph	ba graph	in which the
	mumper of	dges is chore	to the marinal
	rumber	edges, or oth	n 0 1, 20 do 2)
	trong from a	vertices is o	ennected by
	On Vedge.	and of the	and and i
		FAR	34.50.1.6.1.6
A CONTRACTOR OF THE PARTY OF TH			THE RESERVE OF THE PARTY OF THE

	Date
	Page
•	If graph is sparse, we should store it as a last of edges.
	If the groth is dense, we should store it as
	If the großh is dense, we should store it as an ad adjacency matrix.
4-	How can you detect a cycle in a graph using BFS and DFS?
>	Steps to detect of a cycele in a graph using BFS:
	using DFS.
1-	Compute in-degree for each of the vertex
	present in the graph and initialize the count
	Compute in-degree for each of the vertex present in the graph and initialize the count of visited nodes as 0.
,	Pick - 10 Ha vertices in the in-door as D and
0-	Pick all the vertices with in-degree as 0 and add them into a queue.
1030330	
3-	Remove a vertex from the queue and increament
	Remove a vertex from the queue and increanent count of visited nodes by 1.
	Repeat step 3 antill queue is empty.
5-	If count of visited rodes is not equal to the
	If count of visited modes is not equal to the number of nodes in the graph has cycle, otherwise not.
	otherwise not.

as user input. and Secursion stack using Secursion. 3- Mark the index in the recursion stack and the current node as vioited. - Make the index in the returnion stack and the cursent secursive calls for all the unvisited adjacent verties for the Current hode, and if any of these Secursive Junction setula trele, return true I any adjacent vertices are already violed Sin the recursion stack, mark the answer

	Date
	Page
5-	What do you mean by disjoint set data
1	structure & Explain 3 Speration along with
	Gramplus, which can be performed on disjoint sets
144	vient de la reduir de partir
->	It is also known as union-find data
	structure and merge - find set. It is a
200	data structure that contains a collection
	of disjoint or non-disjoint sets. It also
24.2	of disjoint or non-disjoint sets. It also allows to find out whether the two elements are in the same set or not efficiently.
	are in the same set or not efficiently.
A South	Three operations performed on disjoint sets:
1-1-	Making new sets:
	11-1-11-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-
1 1165	Junction Makeset (n) is
1	if n is not already in the forest then n. print parent := n
1	M. size:=1
115170111	2. 2ank:=0
	end "if
	end function.
143	Sind Direction is the second in the second i
1	

	Date
	Page
2	Sinding Set & observations:
9-1	Finding Set representatives:
	function Find (2)'s
	Stanbount + 21 Han
	if n. parent = n. then or. parent = Find (n. parent)
	Seturn H. parent
	else
	Leturn n
	end if
	end function
3-	Merge two Sits:
	1 Jano 10 1 maio prince of the comment of
	function union (24) is 8 n:= Find (24)
	8 n:= Find (n)
	y = Find(y)
	if x = y then
	rettun
	end y
	1/20. size × y. size then (2,y) = (y,n)
	1 11
	end if
	y. parent = x y. parent = x y. size = x. size + y. size.
	end function.
	The state of the s

	Date
	Page
6-	Run BFS and DFS on graph shown on sight side.
	sight side.
	Tourston sind for sin
\rightarrow	A (G)
	(B) 1
	EX SCZ (A)
	BFS:
	Node B.E.CADF
	Parent BEADO
	Unviorteed nodes: Grand 4
	Path: B-E-A-D->F
	(%) 1 : 1 (%)
	DFS.
	Node: B'BCEADF
	afack: B CE EE AE DE FE E
	Path: B-> C-, E->A->D->F.
	-2-1- 22/2 1-2 1-12/2000
	X = Harrist H
	I Sic P. F. LSid. N. S. LSid. N.
	· · · · · · · · · · · · · · · · · · ·

	Date
	Page
7-	Find the no. of connected components and vertices in each component insing disjoint
	vertices in each component issing disjoint
	set data structure:
->	V= {a} {b} 106 8d} def (1) 193 def (1)
	E= {a,b} & a,c} & b,c} & b,d} & e,f de,g} de,g} dR,i}
1 10	I THE PERSON OF THE PROPERTY OF THE PERSON O
	(a,b) fa,b) & c) & dy & e) & f & dg & d & fighty (a,c) & da,b, c) & dy & e & d' & f & g & d & f & ij & j & (b,c) & da,b, c,d & & e & & f & d & & & & & & & & & & & & & & &
	(a,c) 199,64 24 204 214 2999 2 24 14-11-11-
	(b) 199,6,0,6,0,7,0,9,6,9,6,9,6,9,6,9,9,9,9,9,9,9,9,9,9,9
100	(e, t) 20 h c d 2 1 1 2 2 1 4 2 1 4 2 1 6 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1
	(e,9) Jab (12.50) 5 2 2 5 19 19
	(hi) dant colors of the said
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
- 10	no of connected components = 3.
8-	Heply Topology Sorting and DFS on graph
* 34	having vertices 0 to 5.
LAN	A COMMENT OF THE PARTY OF THE P
450000000000000000000000000000000000000	(4)
	15)
14	

Date ___ Page ___ Adjacent list: 0 4-> 0,1 5-72,0 false false false false. Topological sort (o) visited [o]: true. Best is empty no more recursion call. 2- Topological Boit (1), visited (3)= true. list is empty no more secursion all. Topological sort (2), violeted (2)2-true. Topological bort (3) Visited (3) 2 true. is cheady visited. no more klanson call stack. b' and '1' already violeted no more secursion all stack.

		Date
		Page
- 5+	Topological assol	+ (5) visited (5). = true.
	1011	13/2/4/5
del	- MUN	dont mold
6-	Print all el	ements from top to Bottom.
		5,1,0
		men stade of the fill
1.97	Heap data 9tu	reture can be used to
1 Equal	implement prio	ify queee ? Name few graph
tour deep	algorithms where	you need to one priority
isldus.	quere and wh	y/2 washing to
to solo de		use heaps to impleament
- Took'	the priority q	evene. It will take O(log N).
	teme to Vinse	it and doubt delet ouch
	element in	he priority quem. Heaps
Paris	are great for	impleamenting a priority
	semallist et	ent at the root of
	the toppe for	a max-heep and a nin-
	heap suspective	ely.
	Few geraph al	Zgorðan.
1-	Dijkstra's.	
	0	
~ ~	Trims, Hc.	

	Dete
	Date
	Page
16 Difference between	Max and Him heals
80	1 1 1 - 2
-> Max heap	Min heap
wester it dot not top to Pattom	ob. We tried to
In The key is pres	ent In this, win heap.
at the sept node no	
be greater than or	The west rode I must
qual to among the	be less than or equal
Kys present at all	at all of its children.
its children.	at all of its children.
	' Company of the comp
2- In this, the maximus	
kog element present	present at the root.
at the soot.	to come to the said
3- It uses the descen	I Tillian Coll I
ing brionity.	prierity.
program.	January .
The American services of the s	me and the state of the state o
· · · · · · · · · · · · · · · · · · ·	Dr. Mary Co.
	· of a de April of
	A. Weight