

## **TUGAS GRAPH**



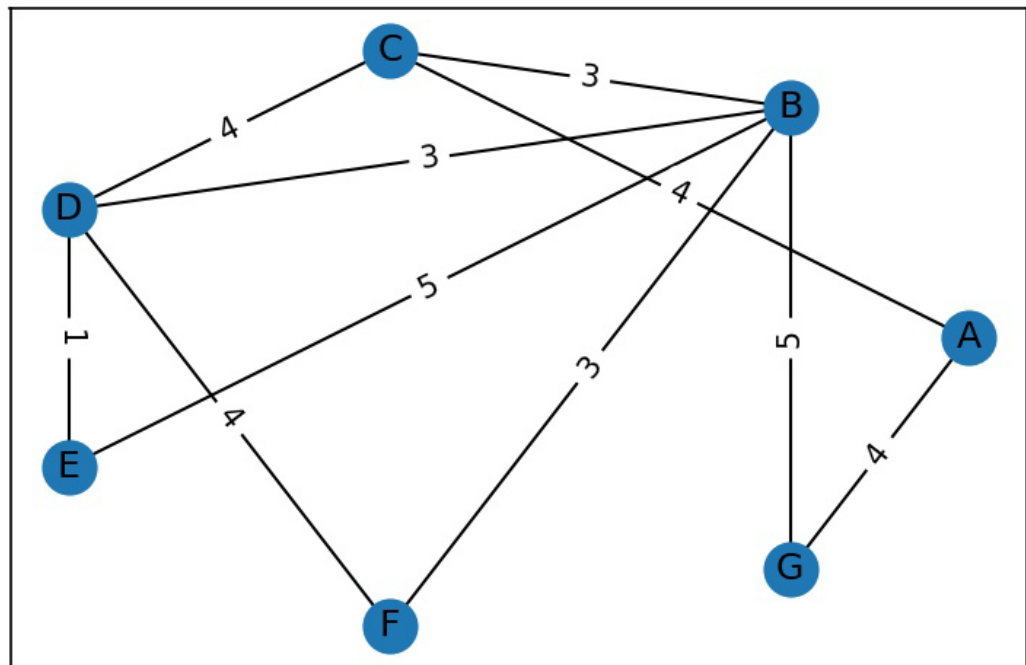
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**MATA KULIAH STRUKTUR DATA DAN ALGORITMA  
UNIVERSITAS PENDIDIKAN GANESHA  
SINGARAJA  
2022**

### A. PERMASALAHAN

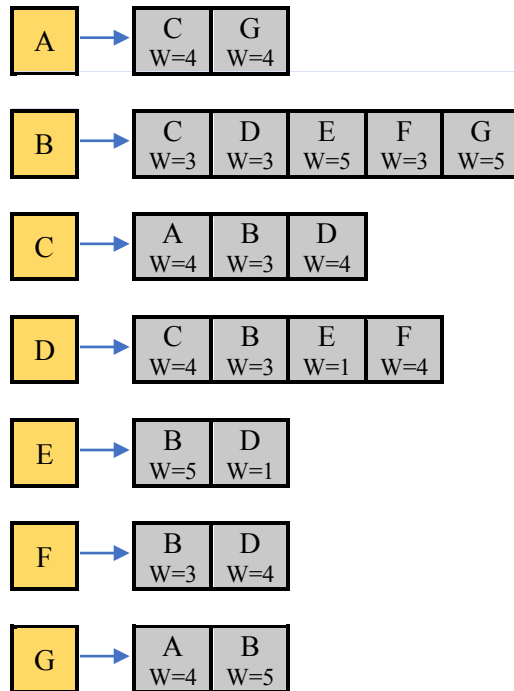
1. Make an adjacency list representation of Graph X!
2. Make an adjacency matrix representation of Graph X!
3. Traverse Graph X starting from vertex A using DFT!
4. Traverse Graph X starting from vertex A using BFT!
5. Find the shortest path of Graph X using Dijkstra's shortest path algorithm starting from vertex A!



**Graph X**

## B. PENYELESAIAN

1. Make an adjacency list representation of Graph X!



2. Make an adjacency matrix representation of Graph X!

	A	B	C	D	E	F	G
A			4				4
B			3	3	5	3	5
C	4	3		4			
D		3	4		1	4	
E		5		1			
F		3		4			
G	4	5					

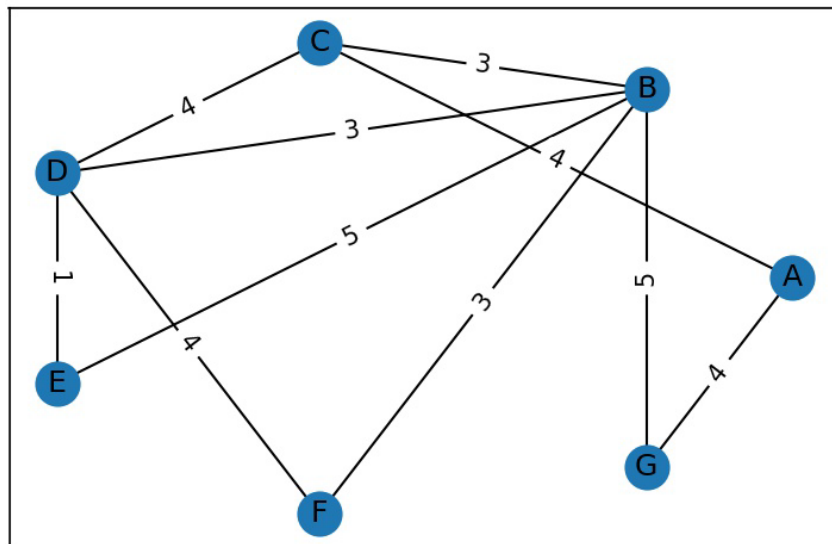
3. Traverse Graph X starting from vertex A using DFT!

Step1	Pseudocode
F	Push(F)
B	Push(B)
E	Push(E)
D	Push(D)
C	Push(C)
A	Push(A)

Step2	Pseudocode
	Pop(F)
B	-
E	-
D	-
C	-
A	-

Step3	Pseudocode
G	Push(G)
B	-
E	-
D	-
C	-
A	-

Step4	Pseudocode
	Pop(G)
	Pop(B)
	Pop(E)
	Pop(D)
	Pop(C)
	Pop(A)



4. Traverse Graph X starting from vertex A using BFT!

Step1(Visit A)	A	C	G				
Pseudocode	En(A)	En(C)	En(B)				

Step2(Visit C)		C	G	B	D		
Pseudocode	De(A)	-	-	En(B)	En(D)		

Step3(Visit G)			G	B	D		
Pseudocode	-	De(C)	-	-	-		

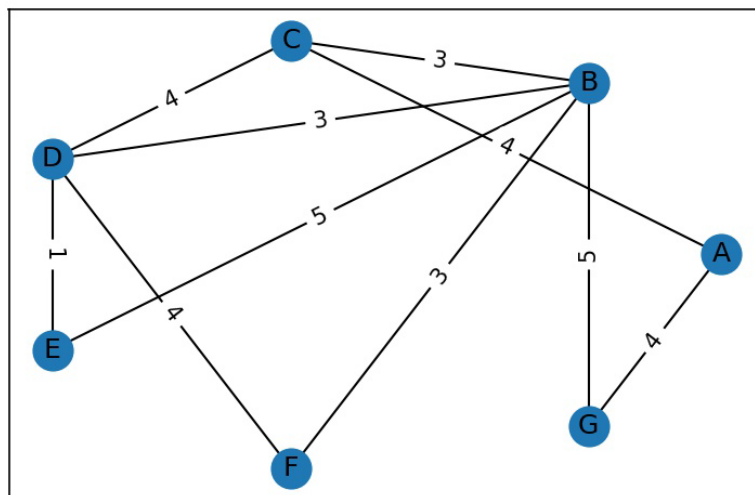
Step4(Visit B)				B	D	F	E
Pseudocode	-	-	De(G)	-	-	En(F)	En(E)

Step5(Visit D)					D	F	E
Pseudocode	-	-	-	De(B)	-	-	-

Step6(Visit F)						F	E
Pseudocode	-	-	-	-	De(D)	-	-

Step7(Visit E)							E
Pseudocode	-	-	-	-	-	De(F)	-

Step8(Finish)							
Pseudocode	-	-	-	-	-	-	-



5. Find the shortest path of Graph X using Dijkstra's shortest path algorithm starting from vertex A!

Vertex	Shortest distance from A	Previous vertex
A	0	
B	7	C
C	4	A
D	8	C
E	9	D
F	10	B
G	4	A

