

Implementation of routing algorithm

AIM

To develop a program to demonstrate Dijkstra Algorithm used for packet routing in computer networks.

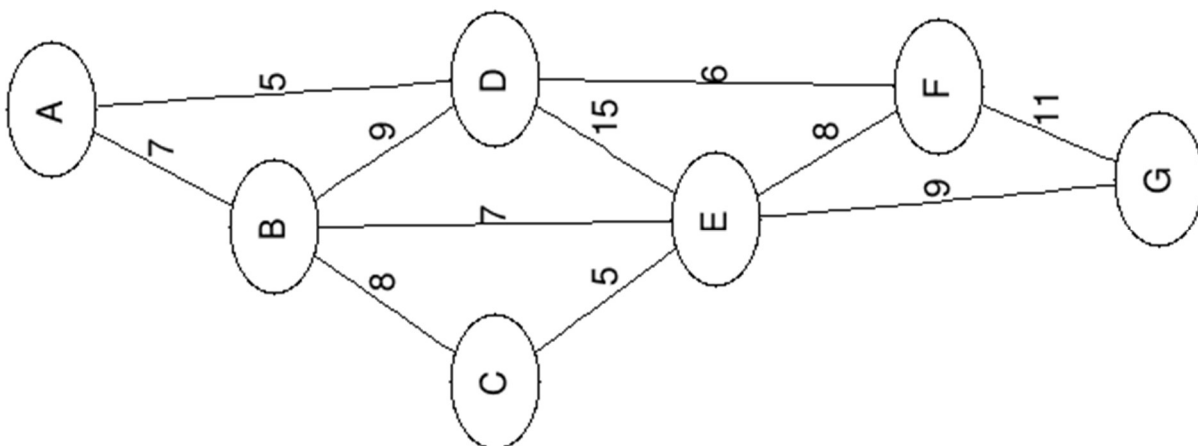
SELECTED ALGORITHM DETAILS

Dijkstra Algorithm – Dijkstra's algorithm finds the shortest path between points in a network. It works by continuously picking the closest unvisited node and updating its neighbors' distances. In computer networks, it helps routers find the best route for data transmission based on factors like distance. It's used for efficient routing, traffic optimization, and ensuring quality of service. Overall, it's a key tool for navigating networks effectively and ensuring smooth data flow.

FLOWCHART FOR IMPLEMENTATION

RESULT

Graphical Representation of Graph



Code Output:

Source	Destination	Distance	Path	Neighbor
A	A	0	A	
A	B	7	A -> B	B
A	C	15	A -> B -> C	B
A	D	5	A -> D	D
A	E	14	A -> B -> E	B
A	F	11	A -> D -> F	D
A	G	22	A -> D -> F -> G	D
B	A	7	B -> A	A
B	B	0	B	
B	C	8	B -> C	C
B	D	9	B -> D	D
B	E	7	B -> E	E
B	F	15	B -> E -> F	E
B	G	16	B -> E -> G	E
C	A	15	C -> B -> A	B
C	B	8	C -> B	B
C	C	0	C	
C	D	17	C -> B -> D	B
C	E	5	C -> E	E
C	F	13	C -> E -> F	E
C	G	14	C -> E -> G	E

D	A	5	D -> A	A
D	B	9	D -> B	B
D	C	17	D -> B -> C	B
D	D	0	D	
D	E	14	D -> F -> E	F
D	F	6	D -> F	F
D	G	17	D -> F -> G	F
E	A	14	E -> B -> A	B
E	B	7	E -> B	B
E	C	5	E -> C	C
E	D	14	E -> F -> D	F
E	E	0	E	
E	F	8	E -> F	F
E	G	9	E -> G	G
F	A	11	F -> D -> A	D
F	B	15	F -> D -> B	D
F	C	13	F -> E -> C	E
F	D	6	F -> D	D
F	E	8	F -> E	E
F	F	0	F	
F	G	11	F -> G	G
G	A	22	G -> F -> D -> A	F
G	B	16	G -> E -> B	E
G	C	14	G -> E -> C	E
G	D	17	G -> F -> D	F
G	E	9	G -> E	E
G	F	11	G -> F	F
G	G	0	G	

INFERENCE

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Component	Marks
Implementation (3)	
Report (2)	
Total (5)	