	Breadth First Search		Depth First Search	
Stack		Visited	Queue	Visited
[]		{ }	[]	{}
[C]		{ }	[C]	{}
[A, D, E, F]		{C}	[C, A, D, E, F]	{}
[A, D, E, B]		{C, F}	[A, D, E, F]	{C}
[A, D, E]		{C, F, B}	[A, D, E, F, B]	{C}
[A, D]		{C, F, B, E}	[D, E, F, B]	{C, A}
[A]		{C, F, B, E, D}	[E, F, B]	{C, A, D}
[]		{C, F, B, E, D, A}	[F, B]	{C, A, D, E}
			[B]	{C, A, D, E, F}
			[]	{C, A, D, E, F, B}
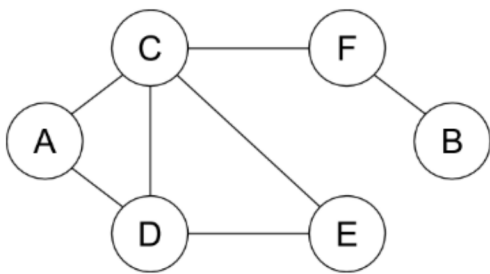
Part 4: Graph Construction.

- Task: Draw the graph that has the following adjacency matrix representation:

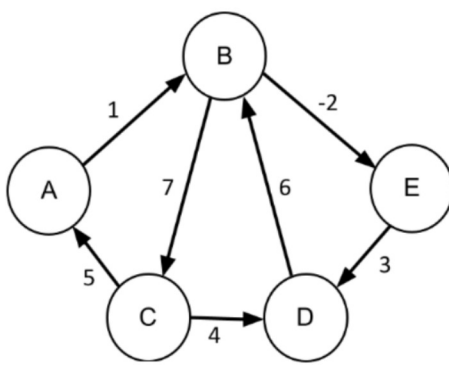|	A	B	C	D	E
A	0	1	5	2	0
B	1	0	0	3	2
C	1	0	0	2	6
D	1	2	5	0	0
E	0	0	9	1	0
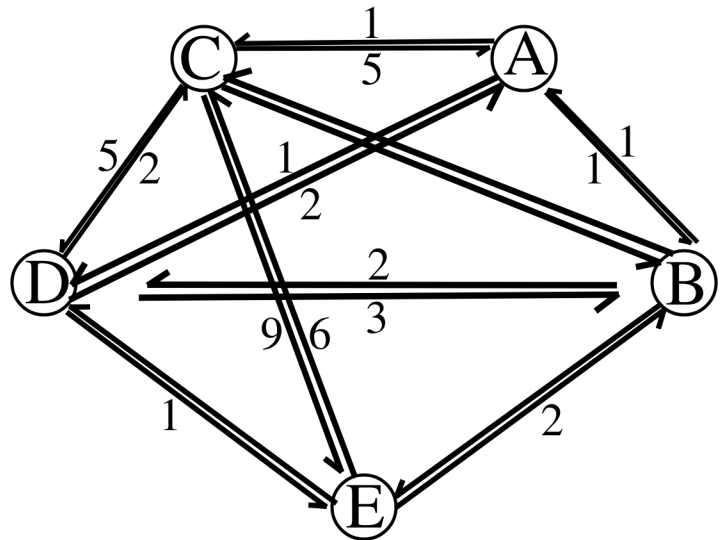
Part 2: Shortest Path with Bellman-Ford Algorithm

- Task: Find the shortest path from vertex A to vertex E using the Bellman-Ford Algorithm.

- Instructions:
  - Show all intermediate steps of the algorithm.
  - Once completed, construct and display the final shortest path from A to E.   n - 1 iterations = 5 - 1 = 4 iterations

Iteration 1
```
0
A  B  C  D  E

0  1
A  B  C  D  E

0  1  8
A  B  C  D  E

0  1  8  12
A  B  C  D  E

0  1  8  12 -1
A  B  C  D  E
```
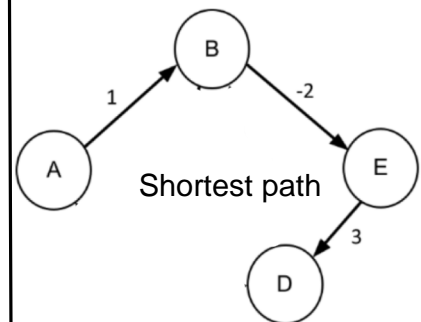
Iteration 2
```
0  1  8  12 -1
A  B  C  D  E

0  1  8  2 -1
A  B  C  D  E
```
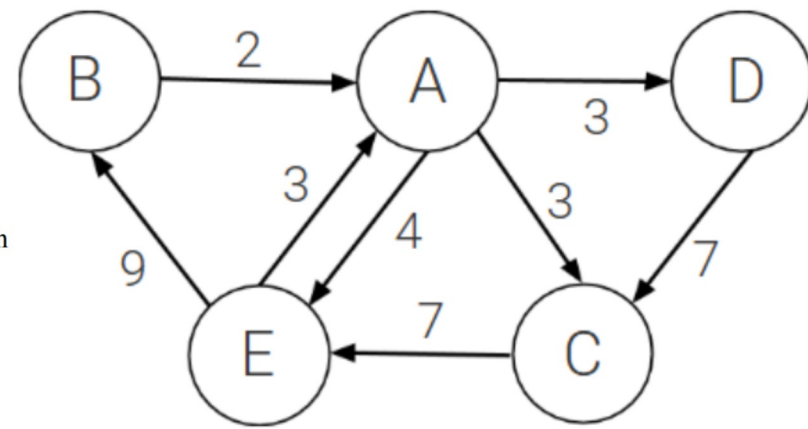
Iteration 3
```
0  1  8  2 -1  Doesn't chang
A  B  C  D  E  so we can end
               to save time
```
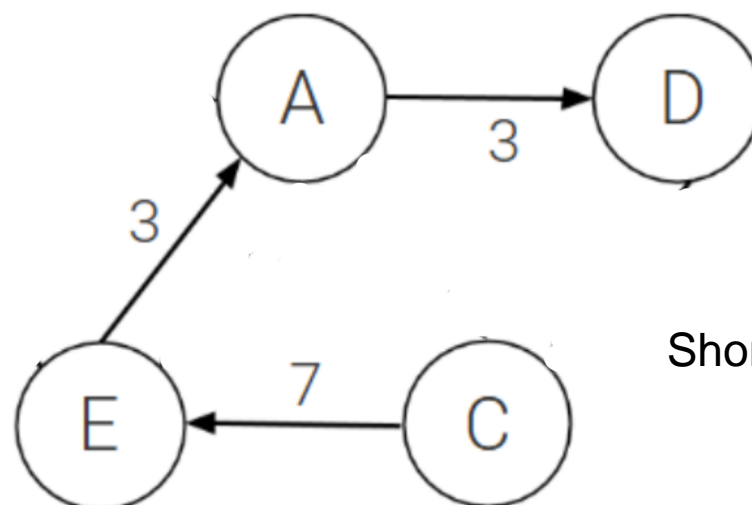

Shortest path

Part 3: Shortest Path with Dijkstra's Algorithm

- Task: Find the shortest path from vertex C to every other vertex using Dijkstra's shortest path algorithm.

- Instructions:
  - Show all intermediate steps of the algorithm.
  - Once completed, construct and display the final shortest path from C to D.

Vertex	Shortest Distance From C	Previous Vertex		Vertex	Shortest Distance From C	Previous Vertex
A	∞	null		A	∞	null
B	∞	null		B	∞	null
C	0	null	⇒	C	0	null
D	∞	null		D	∞	null
E	∞	null		E	7	C

⇙

Vertex	Shortest Distance From C	Previous Vertex		Vertex	Shortest Distance From C	Previous Vertex
A	∞	null		A	7 + 9 + 2 = 18	B
B	7 + 9 = 16	E		B	16	E
C	0	null	⇒	C	0	null
D	∞	null		D	∞	null
E	7	C		E	7	C

⇙

Vertex	Shortest Distance From C	Previous Vertex		Vertex	Shortest Distance From C	Previous Vertex
A	7 + 3 = 10	E		A	10	E
B	16	E		B	16	E
C	0	null	⇒	C	0	null
D	∞	null		D	7 + 3 + 3 = 13	A
E	7	C		E	7	C

⇙

Vertex	Shortest Distance From C	Previous Vertex
A	10	E
B	16	E
C	0	null
D	13	A
E	7	C

Shortest Path