Spring 2020 Midterm Exam

Course Code : CSE 2208 Course Title : Algorithm Lab

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ID : 1802041421 Date : February 3, 2021

Ans. to the Q. No. 2

(a)

Adjacency List :

a	(b,1), (c,6)
b	(a,1), (d,4), (f,2), (c,3)
c	(b,3), (a,6), (d,2), (e,4), (f,7)
d	(f,1), (b,4), (c,2), (e,3)
e	(d,3), (f,5), (c,4)
f	(d,1), (e,5), (b,2), (c,7)

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(b)

Adjacency Matrix :

	a	b	c	d	e	f
a	∞	1	6	∞	∞	∞
b	1	∞	3	4	∞	2
c	6	3	∞	2	4	7
d	∞	4	2	∞	3	1
e	∞	∞	4	3	∞	5
f	∞	2	7	1	5	∞

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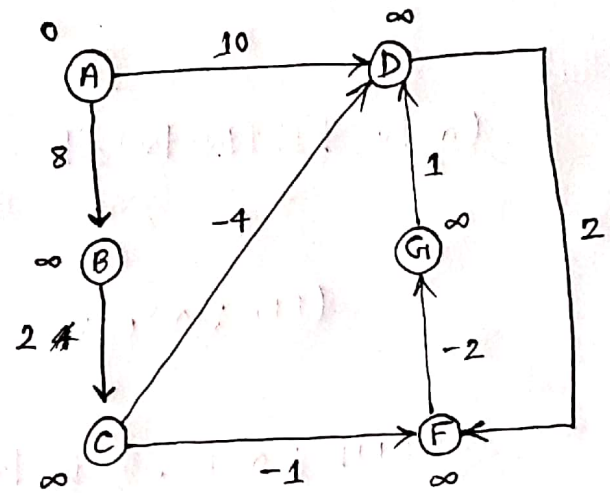
Ans. to the Q. No. 3

```
int reduced_cost (int Mat[][], int n)
{
    for (int i = 0; i<n; i++)
    {
        for (int j=0; j<n; j++)
        {
            if ( Mat [i][j] < Mat [i][j-1] )
            {
                row [i] = Mat [i][j];
            }
        }
    }

    for (int i=0; i<n; i++)
    {
        for (int j = 0; j<n; j++)
        {
            Mat [i][j] - = row [i];
        }
    }
```

```
for (int i = 0 ; i<n ; i++)
{
    int key = mat [0] [i] ;
    for (int j =1 ; j<n ; j++)
    {
        if (mat [j] [i] < key)
        {
            key = mat [j] [i] ;
            col [i] = key ;
        }
    }
}
for (int i = 0 ; i<n ; i++)
{
    for (int j = 0 ; j<n ; j++)
    {
        mat [j] [i] -= col [i] ;
    }
}
}
```

Ans. to the Q No. 4



Edges → (A, B), (B, C), (A, D), (C, F), (C, D), (D, F)

(G, D), (F, G)