Problem 1:

Cycle Cancelling:

Initial:

From: -1 To: 0 Capacity: 4 Cost :0

From: 0 To: 1 Capacity: 4 Cost :2

From: 0 To: 2 Capacity: 2 Cost :2

From: 1 To: 2 Capacity: 2 Cost :1

From: 1 To: 3 Capacity: 3 Cost :3

From: 2 To: 3 Capacity: 5 Cost :1

From: 3 To: 4 Capacity: 4 Cost :0

Final Network:

From: -1 To: 0 flow: 4 Cost :0

From: 0 To: 1 flow: 2 Cost :2

From: 0 To: 2 flow: 2 Cost :2

From: 1 To: 2 flow: 2 Cost :1

From: 1 To: 3 flow: 0 Cost :3

From: 2 To: 3 flow: 4 Cost :1

From: 3 To: 4 flow: 4 Cost :0

n: 6 m: 7 Time taken: 0.43s

Successive Shortest Path:

Initial:

From: 0 To: 1 Capacity: 4 Cost :2

From: 0 To: 2 Capacity: 2 Cost :2

From: 1 To: 2 Capacity: 2 Cost :1

From: 1 To: 3 Capacity: 3 Cost :3

From: 2 To: 3 Capacity: 5 Cost :1

Final Network:

From: 0 To: 1 flow: 2 Cost :2

From: 0 To: 2 flow: 2 Cost :2

From: 1 To: 2 flow: 2 Cost :1

From: 1 To: 3 flow: 0 Cost :3

From: 2 To: 3 flow: 4 Cost :1

n: 4 m: 5 Time taken: 0.07s

Problem 2:

Cycle Cancelling:

From: -1 To: 0 Capacity: 5 Cost :0

From: -1 To: 1 Capacity: 3 Cost :0

From: 0 To: 1 Capacity: 10 Cost :4

From: 0 To: 2 Capacity: 6 Cost :3

From: 1 To: 2 Capacity: 3 Cost :4

From: 1 To: 3 Capacity: 1 Cost :2

From: 1 To: 4 Capacity: 7 Cost :5

From: 2 To: 3 Capacity: 6 Cost :1

From: 2 To: 4 Capacity: 5 Cost :1

From: 3 To: 4 Capacity: 3 Cost :1

From: 3 To: 5 Capacity: 1 Cost :1

From: 4 To: 5 Capacity: 8 Cost :2

From: 4 To: 6 Capacity: 2 Cost :0

From: 5 To: 6 Capacity: 6 Cost :0

Final Network:

From: -1 To: 0 flow: 5 Cost :0

From: -1 To: 1 flow: 3 Cost :0

From: 0 To: 1 flow: 0 Cost :4

From: 0 To: 2 flow: 5 Cost :3

From: 1 To: 2 flow: 0 Cost :4

From: 1 To: 3 flow: 1 Cost :2

From: 1 To: 4 flow: 2 Cost :5

From: 2 To: 3 flow: 0 Cost :1

From: 2 To: 4 flow: 5 Cost :1

From: 3 To: 4 flow: 0 Cost :1

From: 3 To: 5 flow: 1 Cost :1

From: 4 To: 5 flow: 5 Cost :2

From: 4 To: 6 flow: 2 Cost :0

From: 5 To: 6 flow: 6 Cost :0

n: 8 m: 14 Time taken: 0.56s

Successive Shortest Path:

Initial:

From: 0 To: 1 Capacity: 10 Cost :4

From: 0 To: 2 Capacity: 6 Cost :3

From: 1 To: 2 Capacity: 3 Cost :4

From: 1 To: 3 Capacity: 1 Cost :2

From: 1 To: 4 Capacity: 7 Cost :5

From: 2 To: 3 Capacity: 6 Cost :1

From: 2 To: 4 Capacity: 5 Cost :1

From: 3 To: 4 Capacity: 3 Cost :1

From: 3 To: 5 Capacity: 1 Cost :1

From: 4 To: 5 Capacity: 8 Cost :2

Final Network:

From: 0 To: 1 flow: 0 Cost :4

From: 0 To: 2 flow: 5 Cost :3

From: 1 To: 2 flow: 0 Cost :4

From: 1 To: 3 flow: 1 Cost :2

From: 1 To: 4 flow: 2 Cost :5

From: 2 To: 3 flow: 0 Cost :1

From: 2 To: 4 flow: 5 Cost :1

From: 3 To: 4 flow: 0 Cost :1

From: 3 To: 5 flow: 1 Cost :1

From: 4 To: 5 flow: 5 Cost :2

n: 6 m: 10 Time taken: 0.25s