Bidirectional GS algorithm (with steps within time blocks)

1st round

Students (proposers / acceptors)

t	**1**	**2**	**3**	**4**	**5**
preferences	**5**	**4**	**3**	**2**	**1**
A	L	M	N	O	P
B	O	P	L	N	M
C	P	O	L	M	N
D	L	N	O	M	P
E	M	N	O	P	L

Firms (acceptors / proposers)

t	**1**	**2**	**3**	**4**	**5**
preferences	**5**	**4**	**3**	**2**	**1**
L	A	D	B	E	C
M	C	E	B	D	A
N	A	D	C	B	E
O	C	A	D	B	E
P	B	C	D	A	E

Proposal Table

L		**A**	
M		**B**	
N		**C**	
O		**D**	
P		**E**	

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (with steps within time blocks)

1st round

- students A, B, C, D and E send offers to firms L, M, O and P

Students (proposers / acceptors)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
A	L	M	N	O	P
B	O	P	L	N	M
C	P	O	L	M	N
D	L	N	O	M	P
E	M	N	O	P	L

Firms (acceptors / proposers)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
L	A	D	B	E	C
M	C	E	B	D	A
N	A	D	C	B	E
O	C	A	D	B	E
P	B	C	D	A	E

Proposal Table

L	A,D	**A**	
M	E	**B**	
N		**C**	
O	B	**D**	
P	C	**E**	

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (with steps within time blocks)

2nd round (firms)

- firm L accepts A and rejects D

Students (proposers / acceptors)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
A	L	M	N	O	P
B	O	P	L	N	M
C	P	O	L	M	N
D	L	N	O	M	P
E	M	N	O	P	L

Firms (acceptors / proposers)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
L	A	D	B	E	C
M	C	E	B	D	A
N	A	D	C	B	E
O	C	A	D	B	E
P	B	C	D	A	E

Proposal Table

L		**A**	L
M		**B**	
N		**C**	
O		**D**	
P		**E**	

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (with steps within time blocks)

2nd round (students)

- student A is informed about the match with firm L

- student D is informed about refusal of L but she has to wait until t=2 (round 3)

Students (proposers / acceptors)

t	1	2	3	4	5
preferences	5	4	3	2	1
A	L	M	N	O	P
B	O	P	L	N	M
C	P	O	L	M	N
D	L	N	O	M	P
E	M	N	O	P	L

Firms (acceptors / proposers)

t	1	2	3	4	5
preferences	5	4	3	2	1
L	A	D	B	E	C
M	C	E	B	D	A
N	A	D	C	B	E
O	C	A	D	B	E
P	B	C	D	A	E

Proposal Table

L		A	
M		B	
N		C	
O		D	
P		E	

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (with steps within time blocks)

2nd round (firms)

- firms M, N, O and P send offers to students A, B and C

- student A rejects offer of N immediately due to existing match with L

Students (proposers / acceptors)

t	1	2	3	4	5
preferences	5	4	3	2	1
A	L	M	N	O	P
B	O	P	L	N	M
C	P	O	L	M	N
D	L	N	O	M	P
E	M	N	O	P	L

Firms (acceptors / proposers)

t	1	2	3	4	5
preferences	5	4	3	2	1
L	A	D	B	E	C
M	C	E	B	D	A
N	A	D	C	B	E
O	C	A	D	B	E
P	B	C	D	A	E

Proposal Table

L		**A**	N
M		**B**	P
N		**C**	M,O
O		**D**	
P		**E**	

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (with steps within time blocks)

2nd round (firms)

- firm N is informed about the refusal of A but has to wait until round 4 (next time block)

Students (proposers / acceptors)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
A	L	M	N	O	P
B	O	P	L	N	M
C	P	O	L	M	N
D	L	N	O	M	P
E	M	N	O	P	L

Firms (acceptors / proposers)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
L	A	D	B	E	C
M	C	E	B	D	A
N	A	D	C	B	E
O	C	A	D	B	E
P	B	C	D	A	E

Proposal Table

L		**A**	
M		**B**	
N		**C**	
O		**D**	
P		**E**	

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (with steps within time blocks)

3rd round (students)

- student B confirms the offer of P and therefore withdraws the offer to O

Students (proposers / acceptors)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
A	L	M	N	O	P
B	O	P	L	N	M
C	P	O	L	M	N
D	L	N	O	M	P
E	M	N	O	P	L

Firms (acceptors / proposers)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
L	A	D	B	E	C
M	C	E	B	D	A
N	A	D	C	B	E
O	C	A	D	B	E
P	B	C	D	A	E

Proposal Table

L		**A**	
M		**B**	
N		**C**	
O		**D**	
P	B	**E**	

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (with steps within time blocks)

3rd round (firms)

- firm P is informed about match with B and rejects C

Students (proposers / acceptors)

t	1	2	3	4	5
preferences	5	4	3	2	1
A	L	M	N	O	P
B	O	P	L	N	M
C	P	O	L	M	N
D	L	N	O	M	P
E	M	N	O	P	L

Firms (acceptors / proposers)

t	1	2	3	4	5
preferences	5	4	3	2	1
L	A	D	B	E	C
M	C	E	B	D	A
N	A	D	C	B	E
O	C	A	D	B	E
P	B	C	D	A	E

Proposal Table

L		**A**	
M		**B**	
N		**C**	
O		**D**	
P		**E**	

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (with steps within time blocks)

3rd round (students)

- student C is informed about the refusal of P

Students (proposers / acceptors)

t	1	2	3	4	5
preferences	5	4	3	2	1
A	L	M	N	O	P
B	O	P	L	N	M
C	P	O	L	M	N
D	L	N	O	M	P
E	M	N	O	P	L

Firms (acceptors / proposers)

t	1	2	3	4	5
preferences	5	4	3	2	1
L	A	D	B	E	C
M	C	E	B	D	A
N	A	D	C	B	E
O	C	A	D	B	E
P	B	C	D	A	E

Proposal Table

L		**A**	
M		**B**	
N		**C**	
O		**D**	
P		**E**	

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (with steps within time blocks)

3rd round (firms)

- after this, the procedure will go on: firm O is informed about refusal of B

Students (proposers / acceptors)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
A	L	M	N	O	P
B	O	P	L	N	M
C	P	O	L	M	N
D	L	N	O	M	P
E	M	N	O	P	L

Firms (acceptors / proposers)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
L	A	D	B	E	C
M	C	E	B	D	A
N	A	D	C	B	E
O	C	A	D	B	E
P	B	C	D	A	E

Proposal Table

L		**A**	
M		**B**	
N		**C**	
O		**D**	
P		**E**	

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (with steps within time blocks)

3rd round (students)

- after this, the procedure will go on: student C accepts offer of O and rejects M

Students (proposers / acceptors)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
A	L	M	N	O	P
B	O	P	L	N	M
C	P	O	L	M	N
D	L	N	O	M	P
E	M	N	O	P	L

Firms (acceptors / proposers)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
L	A	D	B	E	C
M	C	E	B	D	A
N	A	D	C	B	E
O	C	A	D	B	E
P	B	C	D	A	E

Proposal Table

L		**A**	
M		**B**	
N		**C**	
O	C	**D**	
P		**E**	

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (with steps within time blocks)

3rd round (firms)

- firm O is informed about match with C

Students (proposers / acceptors)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
A	L	M	N	O	P
B	O	P	L	N	M
C	P	O	L	M	N
D	L	N	O	M	P
E	M	N	O	P	L

Firms (acceptors / proposers)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
L	A	D	B	E	C
M	C	E	B	D	A
N	A	D	C	B	E
O	C	A	D	B	E
P	B	C	D	A	E

Proposal Table

L		**A**	
M		**B**	
N		**C**	
O		**D**	
P		**E**	

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (with steps within time blocks)

3rd round (firms)

- firm M is informed about refusal of C

Students (proposers / acceptors)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
A	L	M	N	O	P
B	O	P	L	N	M
C	P	O	L	M	N
D	L	N	O	M	P
E	M	N	O	P	L

Firms (acceptors / proposers)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
L	A	D	B	E	C
M	C	E	B	D	A
N	A	D	C	B	E
O	C	A	D	B	E
P	B	C	D	A	E

Proposal Table

L		**A**	
M		**B**	
N		**C**	
O		**D**	
P		**E**	

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (with steps within time blocks)

3rd round (students)

- students D and E send offers to firm N

Students (proposers / acceptors)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
A	L	M	N	O	P
B	O	P	L	N	M
C	P	O	L	M	N
D	L	N	O	M	P
E	M	N	O	P	L

Firms (acceptors / proposers)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
L	A	D	B	E	C
M	C	E	B	D	A
N	A	D	C	B	E
O	C	A	D	B	E
P	B	C	D	A	E

Proposal Table

L		**A**	
M		**B**	
N	D,E	**C**	
O		**D**	
P		**E**	

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (with steps within time blocks)

4th round (firms)

- firm M accepts offer of E

Students (proposers / acceptors)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
A	L	M	N	O	P
B	O	P	L	N	M
C	P	O	L	M	N
D	L	N	O	M	P
E	M	N	O	P	L

Firms (acceptors / proposers)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
L	A	D	B	E	C
M	C	E	B	D	A
N	A	D	C	B	E
O	C	A	D	B	E
P	B	C	D	A	E

Proposal Table

L		**A**	
M		**B**	
N		**C**	
O		**D**	
P		**E**	M

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (with steps within time blocks)

4th round (students)

- student E is informed about match with M and rejects N

Students (proposers / acceptors)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
A	L	M	N	O	P
B	O	P	L	N	M
C	P	O	L	M	N
D	L	N	O	M	P
E	M	N	O	P	L

Firms (acceptors / proposers)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
L	A	D	B	E	C
M	C	E	B	D	A
N	A	D	C	B	E
O	C	A	D	B	E
P	B	C	D	A	E

Proposal Table

L		**A**	
M		**B**	
N		**C**	
O		**D**	
P		**E**	

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (with steps within time blocks)

4th round (firms)

- firm N is informed about refusal of E

Students (proposers / acceptors)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
A	L	M	N	O	P
B	O	P	L	N	M
C	P	O	L	M	N
D	L	N	O	M	P
E	M	N	O	P	L

Firms (acceptors / proposers)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
L	A	D	B	E	C
M	C	E	B	D	A
N	A	D	C	B	E
O	C	A	D	B	E
P	B	C	D	A	E

Proposal Table

L		**A**	
M		**B**	
N		**C**	
O		**D**	
P		**E**	

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (with steps within time blocks)

4th round (firms)

- as a further step, firm N confirms offer sent by D

Students (proposers / acceptors)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
A	L	M	N	O	P
B	O	P	L	N	M
C	P	O	L	M	N
D	L	N	O	M	P
E	M	N	O	P	L

Firms (acceptors / proposers)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
L	A	D	B	E	C
M	C	E	B	D	A
N	A	D	C	B	E
O	C	A	D	B	E
P	B	C	D	A	E

Proposal Table

L		**A**	
M		**B**	
N		**C**	
O		**D**	N
P		**E**	

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (with steps within time blocks)

4th round (students)

- student D is informed about the match with N

→ finished!

Students (proposers / acceptors)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
A	L	M	N	O	P
B	O	P	L	N	M
C	P	O	L	M	N
D	L	N	O	M	P
E	M	N	O	P	L

Firms (acceptors / proposers)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
L	A	D	B	E	C
M	C	E	B	D	A
N	A	D	C	B	E
O	C	A	D	B	E
P	B	C	D	A	E

Proposal Table

L		**A**	
M		**B**	
N		**C**	
O		**D**	
P		**E**	

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (with steps within time blocks)

FINISHED!

Students (proposers / acceptors)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
A	L	M	N	O	P
B	O	P	L	N	M
C	P	O	L	M	N
D	L	N	O	M	P
E	M	N	O	P	L

Firms (acceptors / proposers)

t	1	2	3	4	5
preferences	**5**	**4**	**3**	**2**	**1**
L	A	D	B	E	C
M	C	E	B	D	A
N	A	D	C	B	E
O	C	A	D	B	E
P	B	C	D	A	E

Matching Table

A	**L**	**sum of preferences of all players = 45**	10
B	**P**		9
C	**O**		9
D	**N**		8
E	**M**		9

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn