Bidirectional GS algorithm (weighted preferences, option 1)

1st round

Students (proposers / acceptors)

t	1			2			3			4			5		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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	offer rejected / withdrawn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 (weighted preferences, option 1)

1st round (students)

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

Students (proposers / acceptors)

t	1			2			3			4			5		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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		**D**	
P	C	**E**	

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (weighted preferences, option 2)

2nd round (firms)

- firm L accepts A and rejects D

Students (proposers / acceptors)

t	1			2			3			4			5		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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	offer rejected / withdrawn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 (weighted preferences, option 2)

2nd round (students)

- student A is informed about match with L

Students (proposers / acceptors)

t	1			2			3			4			5		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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 (weighted preferences, option 2)

2nd round (students)

- student D is informed about refusal of L

Students (proposers / acceptors)

t	1			2			3			4			5		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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 (weighted preferences, option 2)

2nd round (firms)

- firms M, N and P make proposals to A, B and C
- proposal of N is rejected by A immediately

Students (proposers / acceptors)

t	1			2			3			4			5		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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		**D**	
P		**E**	

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (weighted preferences, option 2)

2nd round (firms)

- firm N is informed about refusal of A

Students (proposers / acceptors)

t	1			2			3			4			5		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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 (weighted preferences, option 2)

3rd round (students)

- students B, C and E send offers to firms O and N

Students (proposers / acceptors)

t	1			2			3			4			5		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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	E	**C**	
O	B,C	**D**	
P		**E**	

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (weighted preferences, option 2)

4th round (firms)

- firm M accepts offer of E and withdraws offer to C

Students (proposers / acceptors)

t	1			2			3			4			5		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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 (weighted preferences, option 2)

4th round (students)

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

Students (proposers / acceptors)

t	1			2			3			4			5		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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 (weighted preferences, option 2)

4th round (firms)

- firm N is informed about withdrawing offer of E

Students (proposers / acceptors)

t	1			2			3			4			5		
p	15	14	13	12	11	10	9	8	7	6	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		
p	15	14	13	12	11	10	9	8	7	6	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 (weighted preferences, option 2)

4th round (students)

- student C is informed about refusal of M

Students (proposers / acceptors)

t	1			2			3			4			5		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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 (weighted preferences, option 2)

4th round (firms)

- firm O accepts C and rejects B

Students (proposers / acceptors)

t	1			2			3			4			5		
p	15	14	13	12	11	10	9	8	7	6	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		
p	15	14	13	12	11	10	9	8	7	6	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
O		**D**	
P		**E**	

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (weighted preferences, option 2)

4th round (students)

- student C is informed about match with O and rejects P

Students (proposers / acceptors)

t	1			2			3			4			5		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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 (weighted preferences, option 2)

4th round (firms)

- firm P is informed about refusal of C

Students (proposers / acceptors)

t	1			2			3			4			5		
p	15	14	13	12	11	10	9	8	7	6	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		
p	15	14	13	12	11	10	9	8	7	6	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 (weighted preferences, option 2)

4th round (students)

- the normal procedure goes on: student B is informed about refusal by O

Students (proposers / acceptors)

t	1			2			3			4			5		
p	15	14	13	12	11	10	9	8	7	6	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		
p	15	14	13	12	11	10	9	8	7	6	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 (weighted preferences, option 2)

4th round (firms)

- actually, firm P would have selected C (as seen at the beginning of round 4)
- but due to decisions made by firms M and O, C has withdrawn offer to P, nothing happens now!

Students (proposers / acceptors)

t	1			2			3			4			5		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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 (weighted preferences, option 2)

5th round (students)

- student B confirms offer of P and does not send any further offers

Students (proposers / acceptors)

t	1			2			3			4			5		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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 (weighted preferences, option 2)

5th round (firms)

- firm P is informed about match with B

Students (proposers / acceptors)

t	1			2			3			4			5		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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 (weighted preferences, option 2)

5th round (students)

- student D sends offer to N

Students (proposers / acceptors)

t	1			2			3			4			5		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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	**C**	
O		**D**	
P		**E**	

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn

Bidirectional GS algorithm (weighted preferences, option 2)

6th round (firms)

- firm N confirms offer of D

Students (proposers / acceptors)

t	1			2			3			4			5		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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 (weighted preferences, option 2)

6th round (students)

- student D is informed about match with N

→ finished!

Students (proposers / acceptors)

t	1			2			3			4			5		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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 (weighted preferences, option 2)

FINISHED!

→ the same outcome as in option 1,i.e. the welfare situation is the same.

Students (proposers / acceptors)

t	1			2			3			4			5		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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		
p	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**	**7**	**6**	**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 = **116**	30
B	P		24
C	O		24
D	N		15
E	M		23

Explanation

	offer sent
	offer received
	match
	offer rejected / withdrawn