

1

Question 2 (1 mark) Attempt 1

Which ordered pairs need to be added to the relation

$$p = \{(a,a), (a,b), (a,c), (a,d), (b,a), (b,b), (c,a), (c,b), (c,d), (d,c)\}$$

on the set $X = \{a,b,c,d\}$ to create the symmetric closure p^s of p ?

- A (a,a)
- B (a,b)
- C (a,c)
- D (a,d)
- E (b,a)
- F (b,b)
- G (b,c)
- H (b,d)
- I (c,a)
- J (c,b)
- K (c,c)
- L (c,d)
- M (d,a)
- N (d,b)
- O (d,c)
- P (d,d)
- Q None of them

Response was: Q

 **Incorrect** (0 mark)

2

Question 3 (1 mark) Attempt 1


Which ordered pairs need to be added to the relation

$$p = \{(a,d),(b,c),(b,d),(c,a),(c,c),(d,a),(d,b),(d,c),(d,d)\}$$

on the set $X = \{a,b,c,d\}$ to create the transitive closure p^+ of p ?

- A (a,a)
- B (a,b)
- C (a,c)
- D (a,d)
- E (b,a)
- F (b,b)
- G (b,c)
- H (b,d)
- I (c,a)
- J (c,b)
- K (c,c)
- L (c,d)
- M (d,a)
- N (d,b)
- O (d,c)
- P (d,d)
- Q None of them

Response was: Q

 Incorrect (0 mark)

3

Question 9 (1 mark) Attempt 1


Which ordered pairs need to be added to the relation

$$p = \{(b,a),(b,d),(c,a),(c,d),(d,a),(d,b)\}$$

on the set $X = \{a,b,c,d\}$ to create the transitive closure p^+ of p ?

- A (a,a)
- B (a,b)
- C (a,c)
- D (a,d)
- E (b,a)
- F (b,b)
- G (b,c)
- H (b,d)
- I (c,a)
- J (c,b)
- K (c,c)
- L (c,d)
- M (d,a)
- N (d,b)
- O (d,c)
- P (d,d)
- Q None of them

Response was: Q

 Incorrect (0 mark)

4

Question 4 (1 mark) Attempt 1

Which ordered pairs need to be added to the relation

$$p = \{(a,a)\}$$

on the set $X = \{a,b,c,d\}$ to create the equivalence relation p^* generated by p ?

- A (a,a)
- B (a,b)
- C (a,c)
- D (a,d)
- E (b,a)
- F (b,b)
- G (b,c)
- H (b,d)
- I (c,a)
- J (c,b)
- K (c,c)
- L (c,d)
- M (d,a)
- N (d,b)
- O (d,c)
- P (d,d)
- Q None of them

Response was: Q

X Incorrect (0 mark)

5


Which ordered pairs need to be added to the empty relation

$p = \{\}$

on the set $X = \{a,b,c,d\}$ to create the equivalence relation p^* generated by p ?

- A (a,a)
- B (a,b)
- C (a,c)
- D (a,d)
- E (b,a)
- F (b,b)
- G (b,c)
- H (b,d)
- I (c,a)
- J (c,b)
- K (c,c)
- L (c,d)
- M (d,a)
- N (d,b)
- O (d,c)
- P (d,d)
- Q None of them

Response was: Q

 **Incorrect** (0 mark)

6


Which ordered pairs need to be added to the relation

$$p = \{(b,b), (b,c), (b,d), (c,b), (c,c), (d,a), (d,d)\}$$

on the set $X = \{a,b,c,d\}$ to create the symmetric closure p^s of p ?

- A (a,a)
- B (a,b)
- C (a,c)
- D (a,d)
- E (b,a)
- F (b,b)
- G (b,c)
- H (b,d)
- I (c,a)
- J (c,b)
- K (c,c)
- L (c,d)
- M (d,a)
- N (d,b)
- O (d,c)
- P (d,d)
- Q None of them

Response was: Q

 Incorrect (0 mark)

7


Which ordered pairs need to be added to the relation

$$p = \{(b,a),(b,b),(b,c),(b,d),(d,a),(d,b),(d,c),(d,d)\}$$

on the set $X = \{a,b,c,d\}$ to create the equivalence relation p^* generated by p ?

- A (a,a)
- B (a,b)
- C (a,c)
- D (a,d)
- E (b,a)
- F (b,b)
- G (b,c)
- H (b,d)
- I (c,a)
- J (c,b)
- K (c,c)
- L (c,d)
- M (d,a)
- N (d,b)
- O (d,c)
- P (d,d)
- Q None of them

Response was: Q

 **Incorrect** (0 mark)

8

Which ordered pairs need to be added to the relation

$$p = \{(a,d), (b,c), (c,d), (d,a)\}$$

on the set $X = \{a,b,c,d\}$ to create the symmetric closure p^s of p ?

- A (a,a)
- B (a,b)
- C (a,c)
- D (a,d)
- E (b,a)
- F (b,b)
- G (b,c)
- H (b,d)
- I (c,a)
- J (c,b)
- K (c,c)
- L (c,d)
- M (d,a)
- N (d,b)
- O (d,c)
- P (d,d)
- Q None of them

Response was: Q

X Incorrect (0 mark)

9

Which ordered pairs need to be added to the relation

$$p = \{(a,a), (a,b), (a,c), (a,d), (b,a), (c,a), (c,c), (d,a)\}$$

on the set $X = \{a,b,c,d\}$ to create the equivalence relation p^* generated by p ?

- A (a,a)
- B (a,b)
- C (a,c)
- D (a,d)
- E (b,a)
- F (b,b)
- G (b,c)
- H (b,d)
- I (c,a)
- J (c,b)
- K (c,c)
- L (c,d)
- M (d,a)
- N (d,b)
- O (d,c)
- P (d,d)
- Q None of them

Response was: Q

10

Which ordered pairs need to be added to the relation

$p = \{(a,a), (a,d), (b,b), (b,d), (c,c), (d,a), (d,b)\}$

on the set $X = \{a,b,c,d\}$ to create the equivalence relation p^* generated by p ?

- A (a,a)
- B (a,b)
- C (a,c)
- D (a,d)
- E (b,a)
- F (b,b)
- G (b,c)
- H (b,d)
- I (c,a)
- J (c,b)
- K (c,c)
- L (c,d)
- M (d,a)
- N (d,b)
- O (d,c)
- P (d,d)
- Q None of them

Response was: Q

X Incorrect (0 mark)