

CIT 5920 — Lecture 5: More functions

17 - 18 Sep 2024

Poll results

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What should we start with?

0 2 8

Quiz on relations?



Another example of relation?



Quiz: Fast Function Mapping Diagrams (1/15)

0 3 4

What is illustrated here? (Pick the best answer.)
(1/2)

Relation ☒



Function

☐ 0 %

Injective (one-to-one) function

☐ 0 %

Surjective (onto) function

☐ 3 %

Bijjective function

☐ 0 %

Quiz: Fast Function Mapping Diagrams (1/15)

0 3 4

What is illustrated here? (Pick the best answer.)
(2/2)

None of the above



Quiz: Fast Function Mapping Diagrams (2/15)

032

What is illustrated here? (Pick the best answer.)
(1/2)

Relation

☐ 0 %

Function

☐ 3 %

Injective (one-to-one) function

☐ 0 %

Surjective (onto) function ✓

☒ 94 %

Bijjective function

☐ 3 %

Quiz: Fast Function Mapping Diagrams (2/15)

032

What is illustrated here? (Pick the best answer.)
(2/2)

None of the above

☐ 0 %

Quiz: Fast Function Mapping Diagrams (3/15)

037

What is illustrated here? (Pick the best answer.)
(1/2)

Relation

☐ 0 %

Function

☐ 0 %

Injective (one-to-one) function

☐ 14 %

Surjective (onto) function

☐ 0 %

Bijjective function ☒

☒ 86 %

Quiz: Fast Function Mapping Diagrams (3/15)

037

What is illustrated here? (Pick the best answer.)
(2/2)

None of the above

☐ 0 %

Quiz: Fast Function Mapping Diagrams (4/15)

0 3 4

What is illustrated here? (Pick the best answer.)

(1/2)

Relation ☒



Function

☐ 0 %

Injective (one-to-one) function

☐ 0 %

Surjective (onto) function

☐ 24 %

Bijjective function

☐ 0 %

Quiz: Fast Function Mapping Diagrams (4/15)

0 3 4

What is illustrated here? (Pick the best answer.)
(2/2)

None of the above

 15 %

Quiz: Fast Function Mapping Diagrams (5/15)

036

What is illustrated in a)?
(1/2)

Relation



Function ☒



Injective (one-to-one) function



Surjective (onto) function



Bijjective function



Quiz: Fast Function Mapping Diagrams (5/15)

036

What is illustrated in a)?
(2/2)

None of the above

 3 %

What is illustrated in b)?
(1/2)

Relation ☒



Function

☐ 0 %

Injective (one-to-one) function

☐ 0 %

Surjective (onto) function

☐ 0 %

Bijjective function

☐ 0 %

Quiz: Fast Function Mapping Diagrams (6/15)

0 3 4

What is illustrated in b)?
(2/2)

None of the above

 15 %

What is illustrated in c)?

(1/2)

Relation ☒



Function



Injective (one-to-one) function



Surjective (onto) function



Bijjective function



Quiz: Fast Function Mapping Diagrams (7/15)

033

What is illustrated in c)?
(2/2)

None of the above



What is illustrated in d)?
(1/2)

Relation ☒



Function

☐ 0 %

Injective (one-to-one) function

☐ 0 %

Surjective (onto) function

☐ 3 %

Bijjective function

☐ 3 %

Quiz: Fast Function Mapping Diagrams (8/15)

031

What is illustrated in d)?
(2/2)

None of the above



Quiz: Fast Function Mapping Diagrams (9/15)

0 3 1

Why is the example on the RIGHT not a function?

(1/2)

Not all elements of the domain are mapped. ✓

 94 %

Some elements in the domain are mapped to more than one element in the codomain.

☐ 0 %

The diagram contains loops or cycles.

☐ 0 %

There are arrows pointing from the codomain to the domain.

☐ 0 %

The codomain has elements that are not connected by any arrow.

☐ 3 %

Quiz: Fast Function Mapping Diagrams (9/15)

0 3 1

Why is the example on the RIGHT not a function?

(2/2)

The diagram contains elements that are neither in the domain nor the codomain.

☐ 3 %

Quiz: Fast Function Mapping Diagrams (10/15)

0 3 2

Why is the example on the RIGHT not a function?

(1/2)

Not all elements of the domain are mapped.

☐ 0 %

Some elements in the domain are mapped to more than one element in the codomain.



 100 %

The diagram contains loops or cycles.

☐ 0 %

There are arrows pointing from the codomain to the domain.

☐ 0 %

The codomain has elements that are not connected by any arrow.

☐ 0 %

Quiz: Fast Function Mapping Diagrams (10/15)

0 3 2

Why is the example on the RIGHT not a function?

(2/2)

The diagram contains elements that are neither in the domain nor the codomain.

☐ 0 %

Quiz: Fast Function Mapping Diagrams (11/15)

035

What is illustrated here? (Pick the best answer.)
(1/2)

Relation

☐ 0 %

Function

☐ 0 %

Injective (one-to-one) function

☐ 23 %

Surjective (onto) function

☐ 6 %

Bijjective function ☒

☒ 71 %

Quiz: Fast Function Mapping Diagrams (11/15)

035

What is illustrated here? (Pick the best answer.)
(2/2)

None of the above

☐ 0 %

Quiz: Fast Function Mapping Diagrams (12/15)

0 3 4

What is illustrated here? (Pick the best answer.)
(1/2)

Relation

☐ 0 %

Function

☐ 0 %

Injective (one-to-one) function

☐ 0 %

Surjective (onto) function ✓

☒ 100 %

Bijjective function

☐ 0 %

Quiz: Fast Function Mapping Diagrams (12/15)

0 3 4

What is illustrated here? (Pick the best answer.)
(2/2)

None of the above

☐ 0 %

Quiz: Fast Function Mapping Diagrams (13/15)

0 3 3

What is illustrated here? (Pick the best answer.)
(1/2)

Relation

☐ 0 %

Function

☐ 0 %

Injective (one-to-one) function

☐ 0 %

Surjective (onto) function ✓

☒ 94 %

Bijjective function

☐ 0 %

Quiz: Fast Function Mapping Diagrams (13/15)

033

What is illustrated here? (Pick the best answer.)
(2/2)

None of the above

 6 %

Quiz: Fast Function Mapping Diagrams (14/15)

0 3 4

What is illustrated here? (Pick the best answer.)

(1/2)

Relation

☐ 0 %

Function

☐ 3 %

Injective (one-to-one) function ☒

☒ 94 %

Surjective (onto) function

☐ 3 %

Bijjective function

☐ 0 %

Quiz: Fast Function Mapping Diagrams (14/15)

0 3 4

What is illustrated here? (Pick the best answer.)
(2/2)

None of the above

☐ 0 %

Quiz: Fast Function Mapping Diagrams (15/15)

035

What is illustrated here? (Pick the best answer.)

(1/2)

Relation

☐ 0 %

Function

☐ 0 %

Injective (one-to-one) function

☐ 0 %

Surjective (onto) function

☐ 0 %

Bijjective function ☒

 100 %

Quiz: Fast Function Mapping Diagrams (15/15)

035

What is illustrated here? (Pick the best answer.)
(2/2)

None of the above

☐ 0 %