

CIT 5920 — Lecture 1: Sets

03 - 04 Sep 2024

Poll results

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Which of the following is/are a set?
(1/2)

Banana

☐ 0 %

"Apples & Bananas"

☐ 0 %

{ Apple, Banana } ✓

☒ 100 %

{ Apple, Cherry, Banana } ✓

☒ 100 %

Apple, Cherry, Banana

☐ 0 %

Which of the following is/are a set?
(2/2)

"This is a set"

☐ 0 %

{ "This is a set" } ✓

☒ 87 %

{ {Apple, Banana}, {Banana, Cherry} } ✓

☒ 95 %

{ Apple, {Banana, Cherry} } ✓

☒ 97 %

Sets Comprehension 1 (2/4)

063

Which of the following sets is equivalent to the set $\{2, 3, 3, 4\}$?

$\{2, 3, 4, 4, 3\}$ ✓



$\{3, 4, 2\}$ ✓



$\{2, 3, 4\}$ ✓



$\{4, 3, 2, 3\}$ ✓





Sets Comprehension 1 (4/4)

058

List three examples of sets from your daily life.
(1/6)

- laundry, dish
- {pen,book,notebook}
 {phone,Pad,laptop} {meat,fruit}
- life = {eat, study, sleep}; favorite
 colors = {grey, white, black}; Fall
 2024 Coursework = {CIT 591, CIT
 592, CIT 593}
- 1. The set of items in my
 refrigerator 2. The set of books on
 my bookshelf 3. The set of clothes
 in my closet
- set of things in my backpack:
 {laptop, notebook, airpods} set of
 all the folders on
 the homepage: { cit_591, cit_592,
 cit_593} set of my favorite music
 playlist: {music1, music2, music3}
- {5210, 5220, 5230} {"lunch",
 "breakfast", "dinner"} {1, 2, 3}
- course = {CIT5910, CIT5920,
 CIT5930}, status = {eat, sleep,
 unconscious}, greetings = {good
 morning, good evening}
- set of colors of clothes I do laundry
 set of birthday-months
- universal set: things I love, which
 includes sunshine,

Sets Comprehension 1 (4/4)

058

List three examples of sets from your daily life.
(2/6)

- peanut butter, dogs, people proper subset: people I love, which is itself a set including friends and family subset: things that make me happy
- {mango, banana, watermelon}
- the set of languages that I can speak {"English"} the set of clothes that I dress {"dress"} the set of food that I like {"noodles"}
- song lists basketball teams
- knife, spoon, fork
- Menu, wishlist, courses
- course schedule, fruits,
- types of OS
- {fork, knife, spoon} {sweater, shirt, shorts} {dog, cat, bird}
- {591, 592, 592} {Towne, Van Pelt, LRSM} {Netflix, HW, Cooking}
- {water, food} {car, bus} {dress, shirt}
- {food, sleep, study}
- {coffee, tea, orange juice} {gmail, iCloud} {1, 2, 3}
- 1. sets of days 2. sets of company names 3. sets of cartesian coordinates
- {Laptop, Phone, Watch}

Sets Comprehension 1 (4/4)

058

List three examples of sets from your daily life.
(3/6)

- {CIT5910, CIT5920, CIT5930} {C, Java, Python, R}
- {taco, steak, sushi} {soccer, swimming, basketball} {game, movie, sports}
- My classes this semester Musical scales Names of my dogs
- 1. Grocery shopping list 2. Friend group 3. Daily routine activities
- {breakfast, lunch, dinner} {sleep, sleep, sleep, wake up} {draw, study, video games}
- {Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday}
- {1,2,3} {a,b,c,pass,fail}
- {phone, laptop, pen} {water, earth, gold} {whiteboard}
- {golf, music, art}
- transportation: {bus, walk, uber}
- favorite animals: {cat, dog, hamster} electronics: {mac, iphone, iwatch, calculator}
- {Banana, Apple, Grapes} {1,2,3}
- {Friends, Family, Colleagues}
- Fruits Set: {apple, pear, banana}; Clothes Set: {T-shirt, skirt, jacket}; Lowercase Alphabet Set: {a, b, c, ... , z}
- a collection of car brand

Sets Comprehension 1 (4/4)

058

List three examples of sets from your daily life.
(4/6)

- | | |
|--|--|
| <p>a collection of all 2024 fall mcit student a collection of US presidents</p> <ul style="list-style-type: none">• {shirt, shoes, pants} {5910, 5920, 5930} {Chicago, Philadelphia, San Francisco}• All the courses I'm taking, all the food that I eat in a day, and all types of pencils that I use for an exam• set of classes, set of groceries, set of teachers• set of clothes in closet, group of | <p>students in this class, sets of utensils</p> <ul style="list-style-type: none">• Student roster, shopping catalog, classes• Items to pack for school• Ingredients in recipe Courses to take for MCIT• {"gym","classes","social"} {"banana","apple","watermelon"} {1,2,3,4}• Favorite beverages, books on my bookshelf, workout plan• {breakfast, lunch, dinner} {bedroom, living |
|--|--|

Sets Comprehension 1 (4/4)

058

List three examples of sets from your daily life.
(5/6)

- room, kitchen} {jeans, shirts}
- food sets, transportation sets, tool sets
- {Computer, glasses, notes} {Friends, family, pet} {Running, hiking, playing volleyball}
- {1,2,3} {bikes, cars, trucks} {breakfast, lunch, dinner}
- {tea, coffee, water} {keys, wallet, phone} {591, 592, 593}
- Nationalities, shopping lists, folder names
- My favorite foods, my favorite colors, types of weather
- Foods I eat Foods i hate Foods i like
- { {video games, movies}, {soccer, basketball} }
- R, Z, N
- different types of fruits different types of animals different shapes
- {math, computer systems, software development} {breakfast, lunch, dinner} {notebook, pencils}
- {Apple} {banana} {charger}
- The classes that Im taking this semester {5910, 5920,

Sets Comprehension 1 (4/4)

058

List three examples of sets from your daily life.
(6/6)

5930} The name of the roommates I
have {Rose, Kome} The colors I use
to color code my classes (multiple
uses) {Orange, Green, Blue, Yellow}

- {"upenn", "study", "sleep"}
- Class roster Grocery shopping list
Hash map data structures
- {CIT591,CIT592,CIT593},{socks,
pants, shirts},{rice,kimchi,seaweed}
- Toolbox, Furniture, Shirts

If S is a set containing numbers, which notation indicates that 4 is an element of S ?

0 5 8

(1/2)

$S = 4$

☐ 0 %

$S \in 4$

☐ 2 %

$S > 4$

☐ 0 %

$S(4)$

☐ 0 %

$4 \in S$ ☒

☒ 98 %

If S is a set containing numbers, which notation indicates that 4 is an element of S ?

(2/2)

0 5 8

4(S)

☐ 0 %

Which of the following sets includes all the integers from 1 to 5?

059

$\{1, 2, 3, \dots, 5\}$ ✓



$\{1, 2, 3, 4\}$

0 %

$\{1, 2, 3, 4, 5, 6\}$ ✓



$\{1, 3, 5\}$

2 %

$\{1, 2, 3, 4, 5\}$ ✓



Write down a set of colors using set-roster notation.

051

(1/3)

- {white, black, pink, green, blue}
- {yellow, red, green}
- {color in all colors | color darker than white}
- {pink, blue, black, yellow}
- {blue, red, yellow, green}
- {red, orange.....purple}
- {blue, crayon, debian ded..., zanthé}
- {"red", "blue", "green"}
- S = {red, yellow, green, blue, orange}
- {blue, yellow, orange}
- {"red", "blue", "green"}
- {violet, indigo,red} Rainbow colours VIBGYOR
- {green, red}
- {red, blue... purple}
- {Red}
- Colors = {yellow, red, blue}
- {red, blue, green}
- {Blue, Red, Purple,..., White}
- {red, orange, yellow, green, blue, purple}
- {blue, red, purple}
- {blue, red, yellow, green}
- {red, blue}
- {"Black", "Grey", ..., "White"}

Write down a set of colors using set-roster notation.

(2/3)

0 5 1

- {pink,black,...,white}
- {green, blue}
- {red, blue, orange}
- {Gold, white, pink, green, blue}
- {black}
- {red, blue, green, yellow}
- {red, blue, ... , yellow}
- {red, blue, green, ..., yellow}
- {red, yellow, green}
- {red, orange, yellow, ..., violet}
- {red,blue,white}
- {x symbol green | hues of the rainbow}
- {"blue"}
- {green, yellow, red}
- {blue, green, red}
- Colors of the rainbow {red, orange, yellow, green, ... , purple}
- {burgundy, navy, ivory, cerulean, indigo, periwinkle}
- {"blue", "pink", "tangerine"}
- {red, yellow, blue}
- {red, yellow, blue}
- {red, blue, green }
- {red, blue, green}
- {red, yellow, blue, white}
- {orange, green, blue}
- {blue, green, yellow, pink}

Write down a set of colors using set-roster notation.

(3/3)

0 5 1

- {white, red, blue}
- {Red, Blue, White}
- {Red, Blue}

Write down the set of EVEN (can be divided by 2) numbers between 1 and 10 using set-roster notation.

0 5 7

(1/3)

- {2,4,6,8,10}
- { 2,4,6,8,10 } or { 2, 2, 2,4,6,8,10 } or { 2, 4,...,10 }
- {2,4,6,8}
- {0,2,...}
- {2, 4, 6, 8}
- {2,4,6,8,10}
- {2, 4, 6, 8, 10}
- {2,4,6,8,}
- {2, 4, 6, 8, 10}
- {2, 4, 6, 8, 10}
- {2, 4, 6, 8, 10}
- {2, 4, 6, 8}
- {2,4,...,10}
- {2,4,6,8,10}
- A = {2, 4, 6,10}
- {2,4,...,10}
- {2,4,6,8}
- {2,4,6,8,10}
- {2, 4, 6, 8, 10}
- {2, 4, 6, 8}
- {2,4,6,8,10}
- {0, 2, 4, ..., 10}
- {2, 4, ..., 10}
- {2,4,6,,,,,,,,,,,,,,,,,,,,,10}
- {2, 4, ..., 10}

Write down the set of EVEN (can be divided by 2) numbers between 1 and 10 using set-roster notation.

0 5 7

(2/3)

- $\{2,4,6,8,10\}$
- $\{2,4,...,8\}$
- $\{2, 4, ..., 10\}$
- $\{2,4,6,8,10\}$
- $\text{Even} = \{0,2,4,6,8,10\}$
- $\{2,4,6,8,10\}$
- $\{2,4,...,10\}$
- $\{2,4,6,8\}$
- $\{2,4,...,10\}$
- $S=\{2,4,6,8,10\}$
- $\{2,4,6,8,10\}$
- $\{2,4,6,8,10\}$
- $\{2, 4, 6, 8, 10\}$
- $N = \{2, 4, 6, 8, 10\}$
- $\{2,4,...,10\}$
- $\{2,4,...,10\}$
- $\{2, 4, 6, ..., 10\}$
- $\{2,4,6,8,10\}$
- $\{2, 4, 6, ... , 10\}$
- $\{2, 4, 6,...,10\}$
- $\{2,4,6,8,10\}$
- $\{2,4,6,...,10\}$
- $S = \{2,4,6,8,10,...,18\}$
- $\{2,4,6,8,10\}$
- $\{2, 4, 6, 8, 10\}$
- $N = \{2, 4, 6, 8, 10\}$
- $\{2,4,...,10\}$
- $\{2,4,...,10\}$

Write down the set of EVEN (can be divided by 2) numbers between 1 and 10 using set-roster notation.

0 5 7

(3/3)

- {2, 4, 6, 8, 10}
- {2,4,6,8,10}
- {2, 4, 6, 8, 10}
- {2,4,6,8,10}
- {2,4,6,8,10}
- {2, 4, 6, ..., 10}

What format of quiz do you prefer? (Multiple choice possible)

049

We get all questions



65 %

We get questions one by one



47 %