

Description of the choice domain 1, `male_stars`

The prompt question and the universe of five response options in the choice domain `male_stars` are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

- Which movie star would you choose to have lunch with?
- a. Tom Hanks
 - b. Kevin Spacey
 - c. Morgan Freeman
 - d. Leonardo DiCaprio
 - e. Christian Bale

The source for this domain is the website ranker.com, accessed June 4, 2017. The choices are the top five actors in the list “The best actors working today”.

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

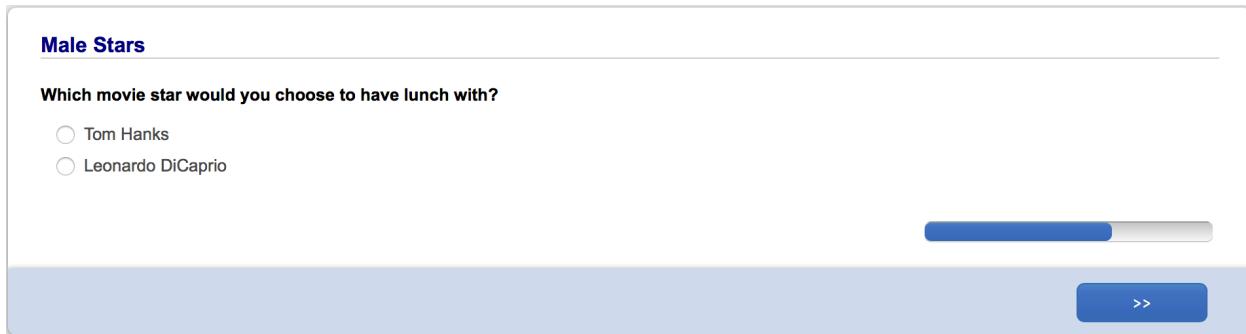


Figure 1: Screenshot from experiment for choice domain `male_stars`

Choice data for domain 1, male_stars

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 32.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	32	8	21	19	26	14	31	9	15	26
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	21	19	24	16	21	19	32	8	28	12
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	17	4	19	23	5	12	20	12	8	16
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	15	9	17	16	7	20	13	7	8	25
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	7	8	27	5	13	21	6	21	12	7
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	11	4	18	7	15	6	16	4	20	5
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	11	4	14	12	9	5	6	25	6	3
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	10	4	10	13	3					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

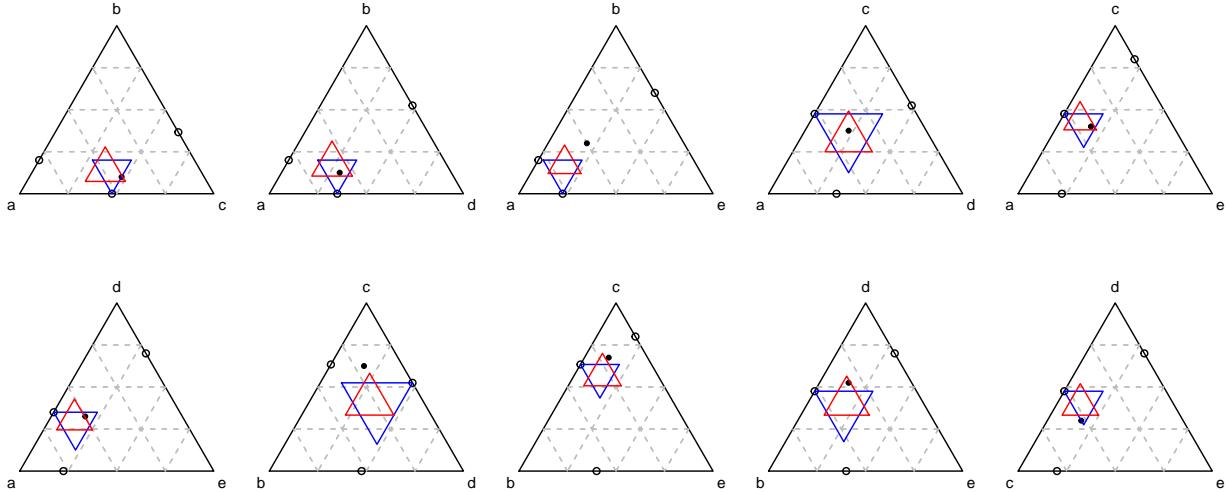


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 2, `female_stars`

The prompt question and the universe of five response options in the choice domain `female_stars` are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

- Which movie star would you choose to have lunch with?
- a. Meryl Streep
 - b. Jody Foster
 - c. Kathy Bates
 - d. Amy Adams
 - e. Julianne Moore

The source for this domain is the website ranker.com, accessed June 4, 2017. The choices are the top five actors in the list “The best American actresses working today”. Jodie Foster’s name was misspelled in the experiment, as two participants noted in the comments.

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

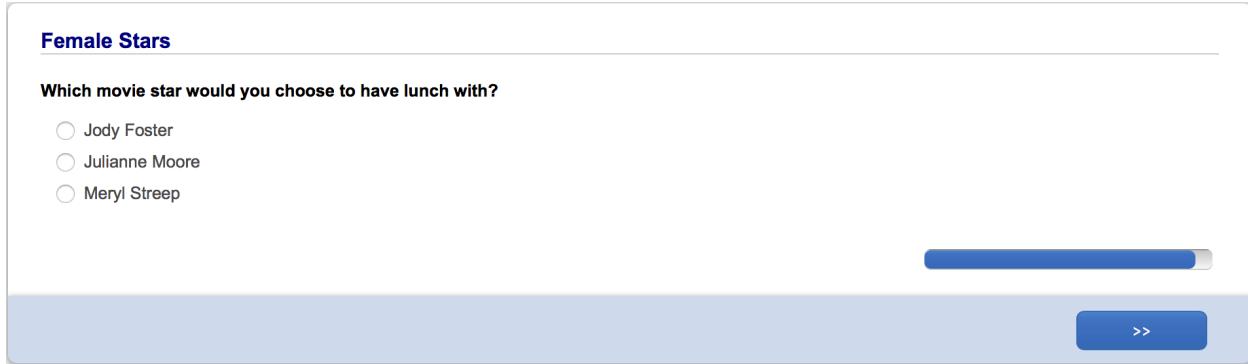


Figure 1: Screenshot from experiment for choice domain `female_stars`

Choice data for domain 2, female_stars

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 22.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	22	18	26	14	25	15	22	18	22	18
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	24	16	19	21	24	16	21	19	15	25
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	17	17	6	16	16	8	16	15	10	15
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	10	15	14	7	19	23	10	7	17	8
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	15	18	11	12	18	10	12	8	12	20
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	17	11	6	6	15	9	9	7	12	15
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	6	7	21	1	15	3	15	9	11	5
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	11	15	4	6	4					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

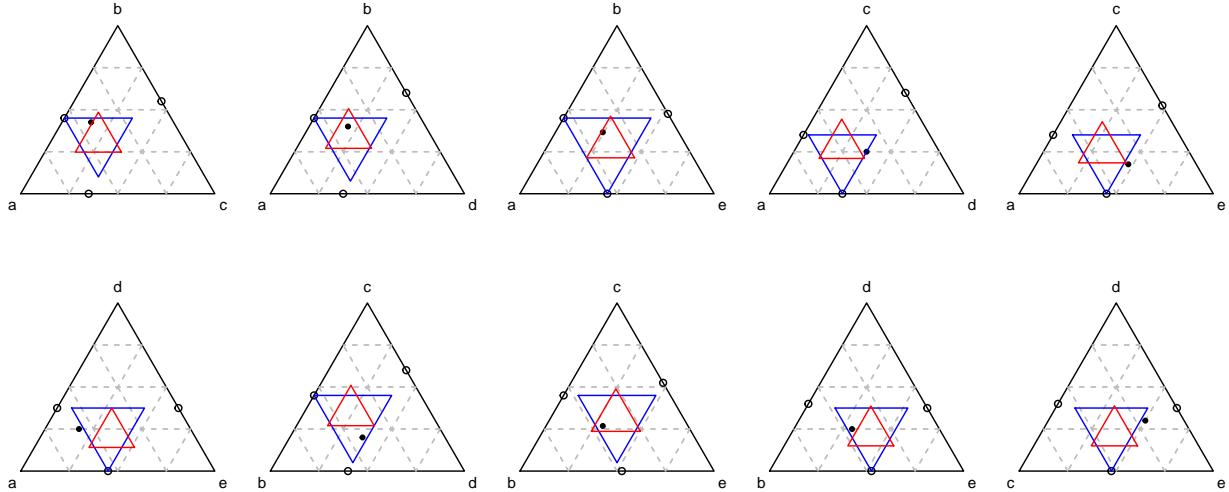


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 3, films

The prompt question and the universe of five response options in the choice domain **films** are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

- Judging from the following descriptions of films, which one of the films would you choose to see?
- a. Two imprisoned men bond over a number of years, finding solace and eventual redemption through acts of common decency.
 - b. Mathilda, a 12-year-old girl, is reluctantly taken in by Léon, a professional assassin, after her family is murdered. Léon and Mathilda form an unusual relationship, as she becomes his protégé and learns the assassin's trade.
 - c. The lives of two mob hit men, a boxer, a gangster's wife, and a pair of diner bandits intertwine in four tales of violence and redemption.
 - d. A sexually frustrated suburban father has a mid-life crisis after becoming infatuated with his daughter's best friend.
 - e. Identical twins, separated at birth and each raised by one of their biological parents, discover each other for the first time at summer camp and make a plan to bring their wayward parents back together.

The source for this domain is the website imbd.com, accessed June, 2017. The film descriptions are from the list “Most Popular Feature Films Released 1990 to 1999”. The decade was chosen so that the films would not be easily recognizable by most respondents.

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

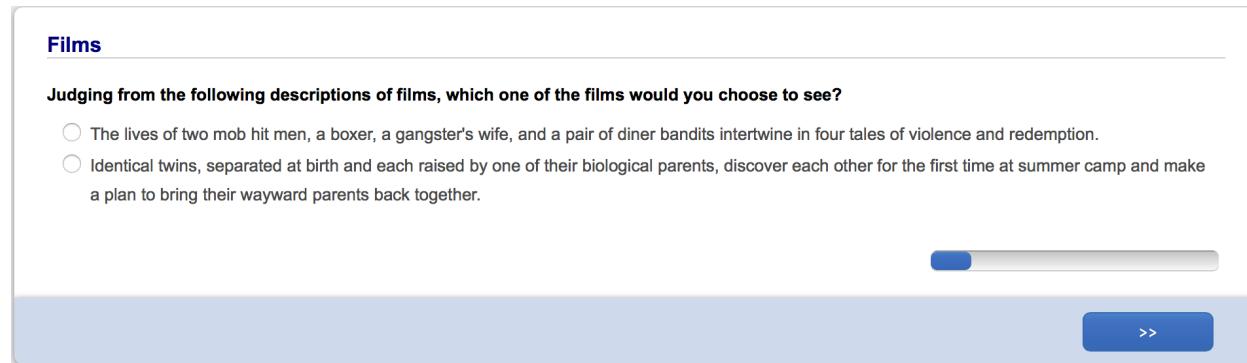


Figure 1: Screenshot from experiment for choice domain films

Choice data for domain 3, films

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 17.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	17	23	27	13	27	13	21	19	23	17
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	29	11	19	21	21	19	27	13	5	36
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	17	17	6	11	27	2	12	13	15	20
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	13	7	15	10	15	16	4	21	15	15
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	10	16	10	14	21	5	14	15	6	19
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	15	14	8	3	7	14	12	7	8	17
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	4	11	12	9	5	14	12	8	5	15
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	7	11	5	3	14					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

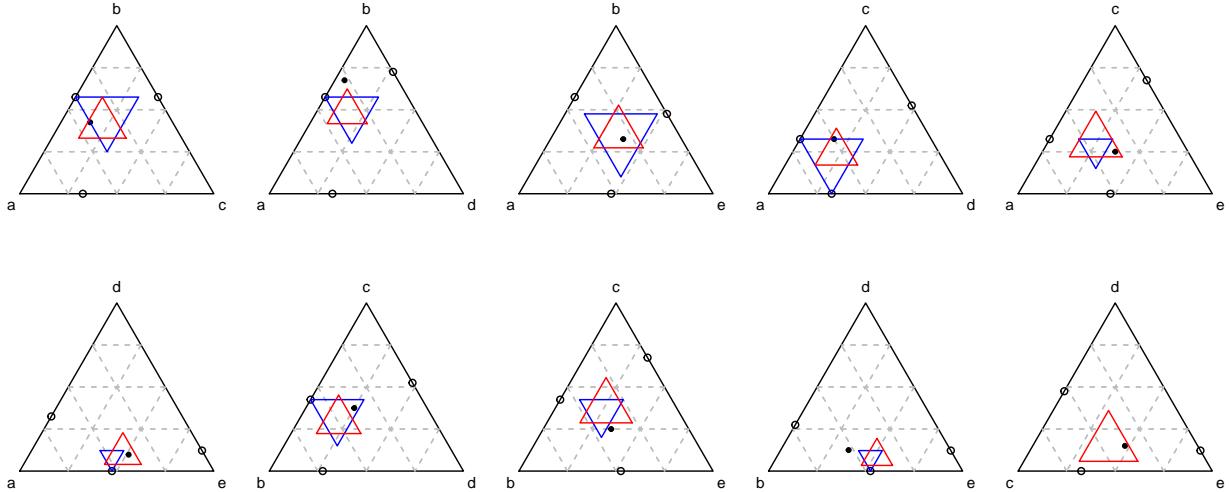


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 4, star_pairs

The prompt question and the universe of five response options in the choice domain `star_pairs` are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

- Knowing only who is starring, which one of these new films would you choose to see?
- a. Tom Hanks and Scarlett Johansson
 - b. Scarlett Johansson and Brad Pitt
 - c. Tom Hanks and Brad Pitt
 - d. Scarlett Johansson and Angelina Jolie
 - e. Tom Hanks and Angelina Jolie

Here, choice objects are pairs of movie stars from a set of four movie stars: Tom Hanks, Scarlett Johansson, Brad Pitt and Angelina Jolie. The only missing pair is Brad Pitt and Angelina Jolie. One possible measure of similarity is the number of actors in common between two pairs, with values 0 and 1. There are nine doubleton choice sets (i.e. pairs of actor pairs) with one star in common and one ($\{c, d\}$) without any stars in common. Thus there are three triples ($\{a, c, d\}$, $\{b, c, d\}$, $\{c, d, e\}$) where one might expect a similarity effect.

In this example, respondents' preferences may depend not only on their liking of particular actors but also on complementaries between actors.

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

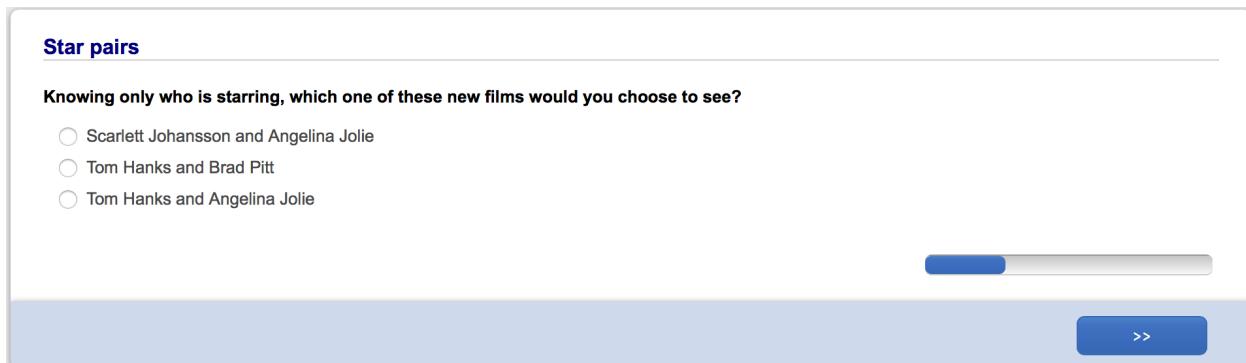


Figure 1: Screenshot from experiment for choice domain `star_pairs`

Choice data for domain 4, star_pairs

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 25.

```
print(exper$N$by_Ax)
```

##	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	25	15	16	24	27	13	22	18	17	23
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	22	18	20	20	19	21	27	13	16	24
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	13	11	16	24	9	7	21	13	6	11
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	19	10	18	16	6	17	10	13	9	22
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	10	19	11	10	14	8	18	18	14	8
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	17	5	15	3	13	11	8	8	17	11
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	8	5	14	9	12	5	6	19	6	9
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	11	5	13	6	5					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

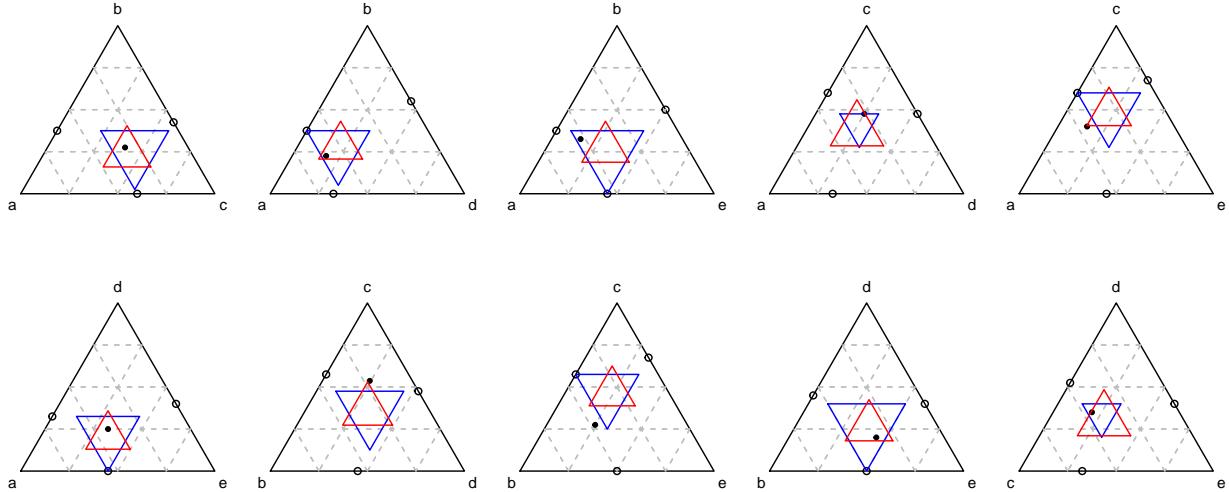


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 5, pizzas

The prompt question and the universe of five response options in the choice domain **pizzas** are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

- Which one of the following pizzas would you choose?
- a. Mozzarella, tomato sauce, basil
 - b. Pepperoni, mushrooms, green pepper, mozzarella, tomato sauce
 - c. Red onion, tomato sauce, feta, mozzarella, olive oil, Greek spices, tomato sauce
 - d. Bacon, white onion, mozzarella, parmesan, fresh cream, tomato sauce, ground pepper
 - e. Mushrooms, green pepper, mozzarella, tomato sauce

The source for this domain is a Montreal pizza restaurant. All these pizzas are either 12 or 13 dollars.

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

The screenshot shows a user interface for a survey. At the top, the word "Pizzas" is written in blue. Below it, a question is displayed in bold black text: "Which one of the following pizzas would you choose?". Underneath the question, there is a list of five options, each preceded by a small circular checkbox. The options are: "Mozzarella, tomato sauce, basil", "Bacon, white onion, mozzarella, parmesan, fresh cream, tomato sauce, ground pepper", "Mushrooms, green pepper, mozzarella, tomato sauce", and "Red onion, tomato sauce, feta, mozzarella, olive oil, Greek spices, tomato sauce". To the right of the list is a horizontal progress bar with a blue indicator. At the bottom right of the screen is a blue rectangular button with a white double-right-pointing arrow icon and the text ">>".

Figure 1: Screenshot from experiment for choice domain pizzas

Choice data for domain 5, pizzas

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 15.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	15	26	23	17	27	13	17	23	22	18
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	21	19	29	11	17	23	21	19	16	24
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	6	18	16	6	23	11	8	25	7	14
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	13	13	7	15	18	8	18	14	21	13
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	6	26	6	8	18	10	12	6	18	16
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	5	19	6	10	7	19	12	3	4	15
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	12	9	9	10	9	12	23	5	9	3
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	4	15	8	8	5					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

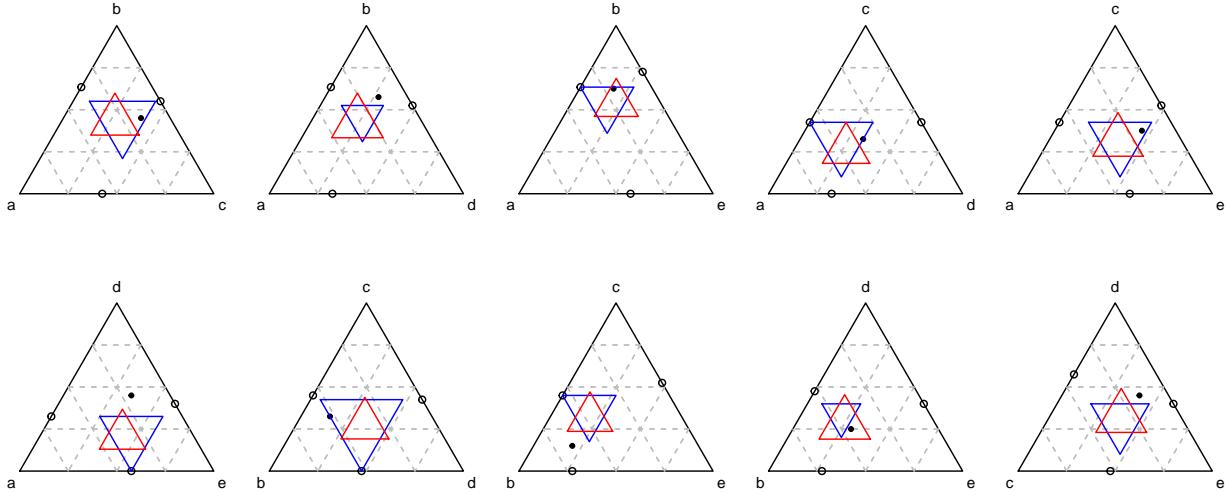


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 6, juices

The prompt question and the universe of five response options in the choice domain **juices** are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

- Which one of the following fresh juices would you choose?
- a. Mango
 - b. Orange
 - c. Apple
 - d. Grapefruit
 - e. Pineapple

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

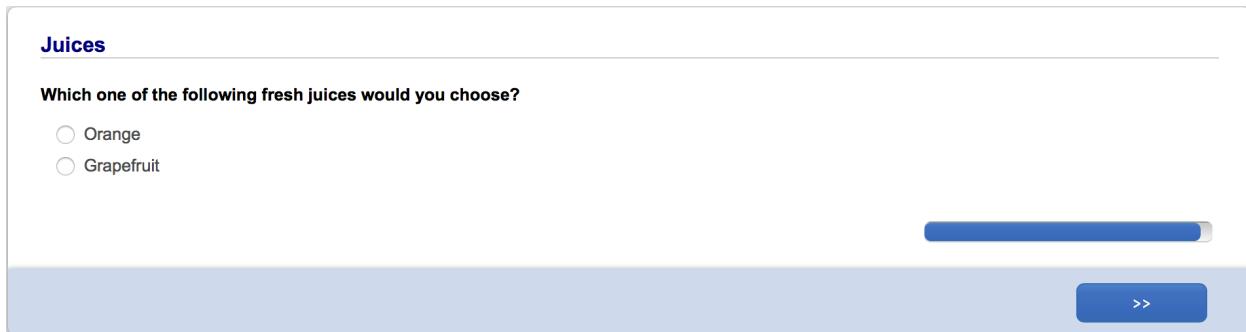


Figure 1: Screenshot from experiment for choice domain juices

Choice data for domain 6, juices

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 15.

```
print(exper$N$by_Ax)
```

##	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	15	25	22	18	26	14	24	16	30	10
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	25	15	24	16	29	11	21	19	15	25
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	15	14	11	21	15	4	11	18	11	19
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	13	8	13	19	8	13	7	20	28	7
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	5	16	13	12	22	8	11	22	6	12
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	10	20	5	5	11	11	7	11	14	14
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	4	8	9	10	11	10	16	7	6	11
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	5	12	6	6	11					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

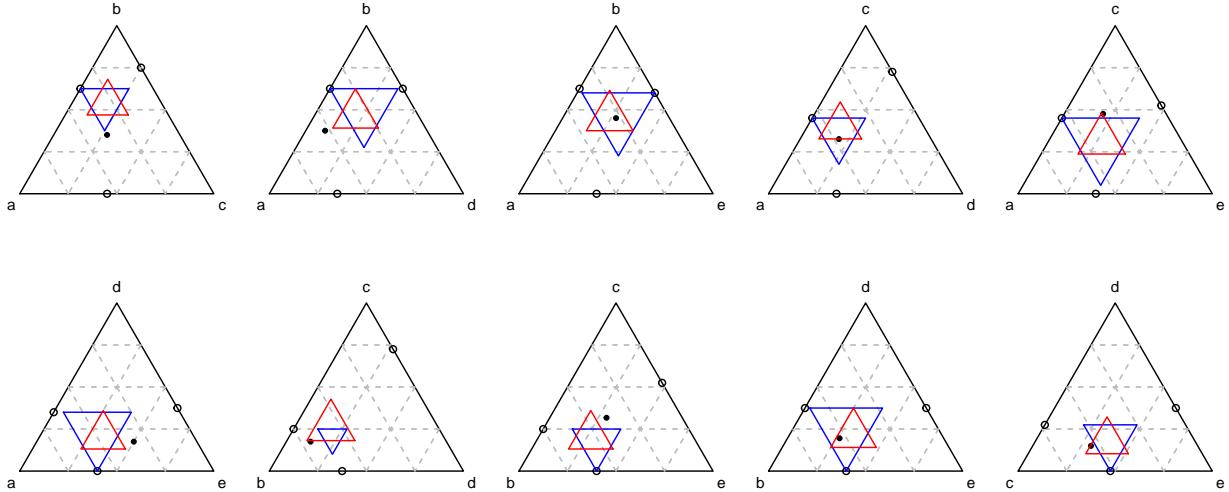


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 7, colours

The prompt question and the universe of five response options in the choice domain **colours** are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

Which one of the following colours do you like best?

- a. Red
- b. Purple
- c. Pink
- d. Blue
- e. Green

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

The screenshot shows a user interface for an experiment. At the top, the word "Colours" is written in blue. Below it, a question is displayed in bold black text: "Which one of the following colours do you like best?". Underneath the question, there are two radio buttons: one for "Green" and one for "Pink". To the right of the radio buttons is a horizontal progress bar consisting of a blue segment followed by a grey segment. At the bottom right of the screen, there is a blue rectangular button with the double-right arrow symbol ">>".

Figure 1: Screenshot from experiment for choice domain colours

Choice data for domain 7, colours

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 21.

```
print(exper$N$by_Ax)
```

##	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	21	19	28	12	8	32	22	18	37	3
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	15	25	16	24	6	34	11	29	33	7
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	19	15	6	7	8	25	16	12	12	10
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	3	27	12	9	19	6	31	3	5	7
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	29	16	8	16	10	20	10	4	30	6
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	6	4	3	27	14	11	3	12	4	9
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	24	4	7	1	21	11	11	2	21	6
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	3	11	3	17	6					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

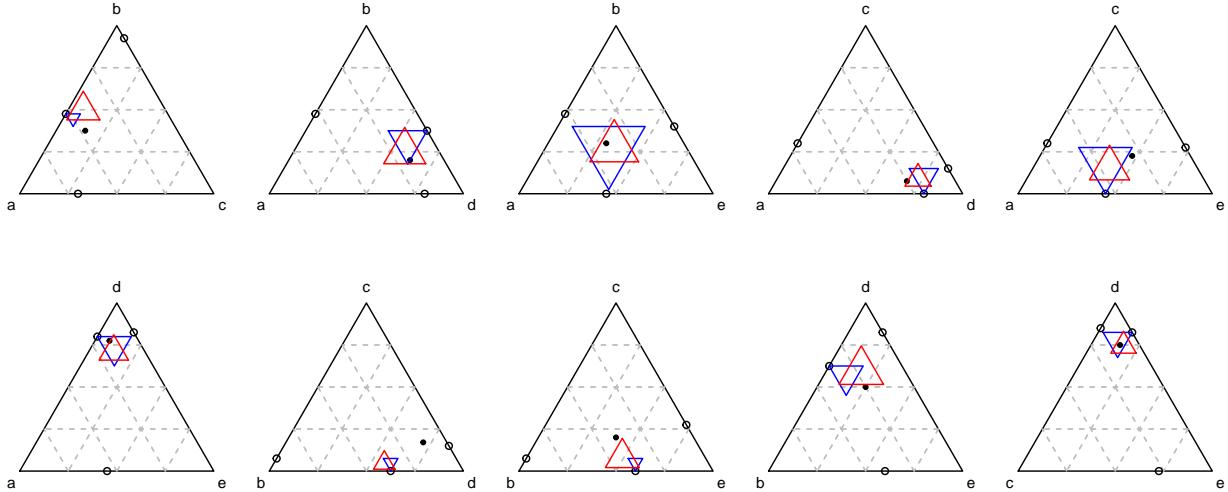


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 8, colour_pairs

The prompt question and the universe of five response options in the choice domain colour_pairs are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

- Which one of these colour combinations do you like best?
- a. Black and red
 - b. Black and purple
 - c. Black and blue
 - d. Blue and red
 - e. Blue and purple

The source for this domain is the website thetoptens.com, accessed June 2017. The color combinations here are those ranked 1, 4, 5, 13 and 14 from the list “Two colors that look good side by side.” We chose a selection of five high ranking combinations among which there were many colors in common. Using a similarity measure equal to the number of colours in common between two pairs, there are two doubleton choice sets where the two colour pairs have no colours in common ($\{a, e\}$ and $\{b, d\}$) and eight where the two colour pairs have one colour in common. This gives six tripletion pairs in which one might expect a similarity effect.

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

The screenshot shows a user interface for a survey or experiment. At the top, there is a header with the title 'Colour combinations'. Below the header, a question is displayed in bold: 'Which one of these colour combinations do you like best?'. Underneath the question, there is a list of five options, each preceded by a radio button. The options are: 'Blue and purple', 'Black and red', 'Black and purple', 'Blue and red', and 'Black and blue'. To the right of the list, there is a horizontal progress bar with a blue segment indicating progress. At the bottom right of the screen, there is a blue rectangular button with the text '>>' on it.

Figure 1: Screenshot from experiment for choice domain colour_pairs

Choice data for domain 8, colour_pairs

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 18.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	18	22	21	19	25	15	21	19	19	21
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	19	21	19	21	21	19	19	21	21	19
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	18	7	15	22	7	11	12	12	16	20
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	11	9	15	15	10	19	13	8	6	17
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	17	14	14	12	17	15	8	14	11	15
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	13	7	11	9	12	5	13	11	10	8
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	16	7	14	5	10	11	9	14	7	10
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	13	7	2	6	12					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

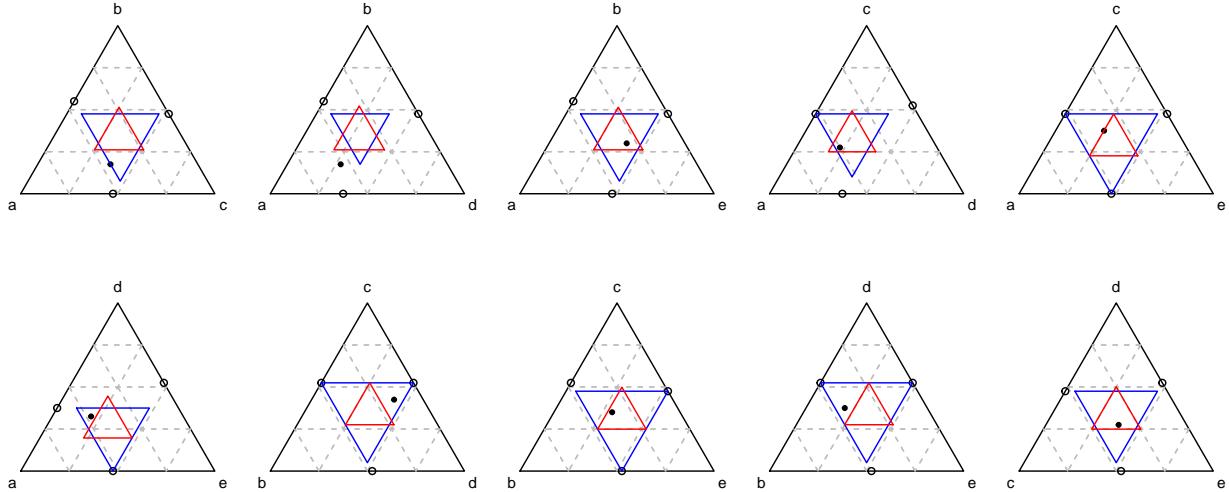


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 9, events

The prompt question and the universe of five response options in the choice domain **events** are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

- Which one of the following events do you think is most likely to happen in the next twenty years?
- a. Scotland becomes an independent country.
 - b. Either Catalonia or Quebec become independent countries.
 - c. Catalonia becomes an independent country.
 - d. Scotland and Quebec become independent countries.
 - e. Either Scotland or Quebec become independent countries.

This domain involves comparisons of the probabilities of future events. Logically, the probability of event *e* must be as least as great as the probability of *a*, which must in turn be as least as great as the probability of *d*; also, the probability of *b* must be as great as the probability of *c*. This gives some triples in which one might expect an asymmetric dominance effect.

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

The screenshot shows a user interface for a survey. At the top, there is a header with the word "Events". Below the header, there is a question: "Which one of the following events do you think is most likely to happen in the next twenty years?". Underneath the question, there is a list of five options, each preceded by a radio button:

- Either Catalonia or Quebec become independent countries
- Either Scotland or Quebec become independent countries
- Catalonia becomes an independent country
- Scotland becomes an independent country

At the bottom right of the screen, there is a blue button with a white double-right arrow icon and the text ">>".

Figure 1: Screenshot from experiment for choice domain events

Choice data for domain 9, events

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 32.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	32	8	32	8	36	4	22	18	15	25
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	19	21	9	31	18	22	17	23	4	36
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	20	15	6	28	11	1	19	8	13	24
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	5	11	24	4	12	24	2	14	11	20
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	9	4	18	18	7	8	25	18	3	19
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	22	8	3	7	25	5	7	4	29	2
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	2	7	21	6	4	9	2	12	5	21
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	20	3	8	0	9					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

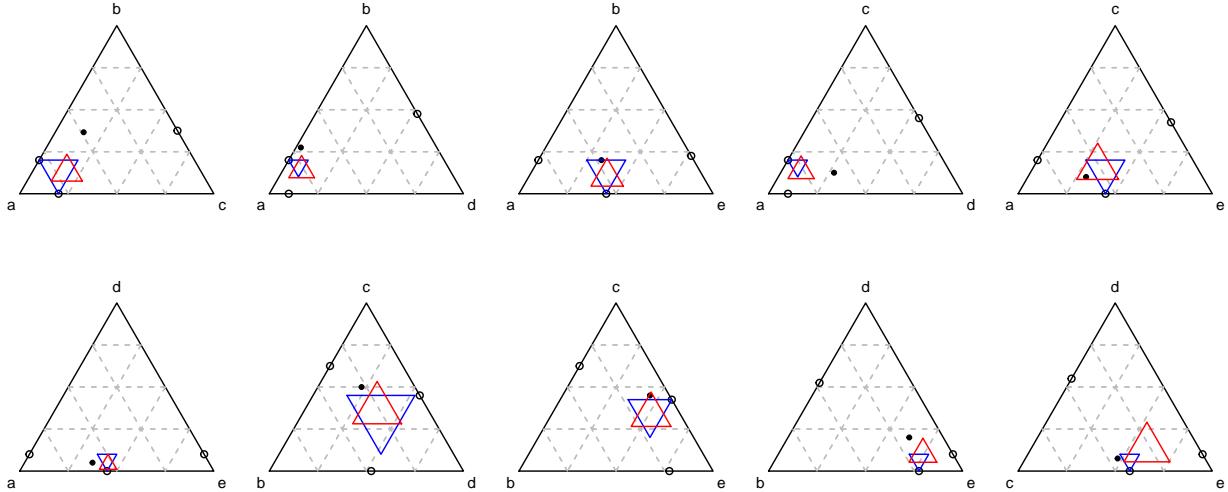


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 10, radio

The prompt question and the universe of five response options in the choice domain **radio** are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

Suppose you were on a two hour road trip and you have a choice among radio stations with the following formats. Which one would you choose?

- a. News
- b. Hot Adult Contemporary, or Hot AC (A variety of classic and contemporary mainstream music geared towards adults.)
- c. Classic Hits (Rock and pop, roughly 1964-1989)
- d. Country Music
- e. Adult Contemporary, or AC (Adult-oriented pop/rock with no hard rock.)

The domain is radio formats, and the choice objects are the top 5 radio formats in Canada in 2015, according to the website Byrnes media, accessed in June, 2017.

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

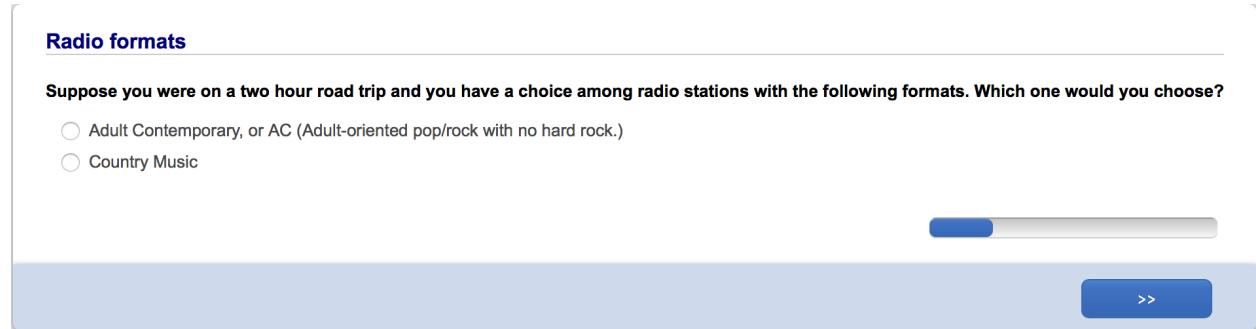


Figure 1: Screenshot from experiment for choice domain radio

Choice data for domain 10, radio

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 10.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	10	30	11	29	22	18	15	25	13	27
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	28	12	16	24	39	1	34	6	9	31
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	5	4	31	9	22	9	10	12	18	3
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	32	5	4	25	11	8	9	24	7	26
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	7	7	26	7	12	9	20	22	6	12
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	3	8	24	5	2	10	21	7	8	12
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	6	14	7	19	11	3	9	19	4	8
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	3	5	22	2	8					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

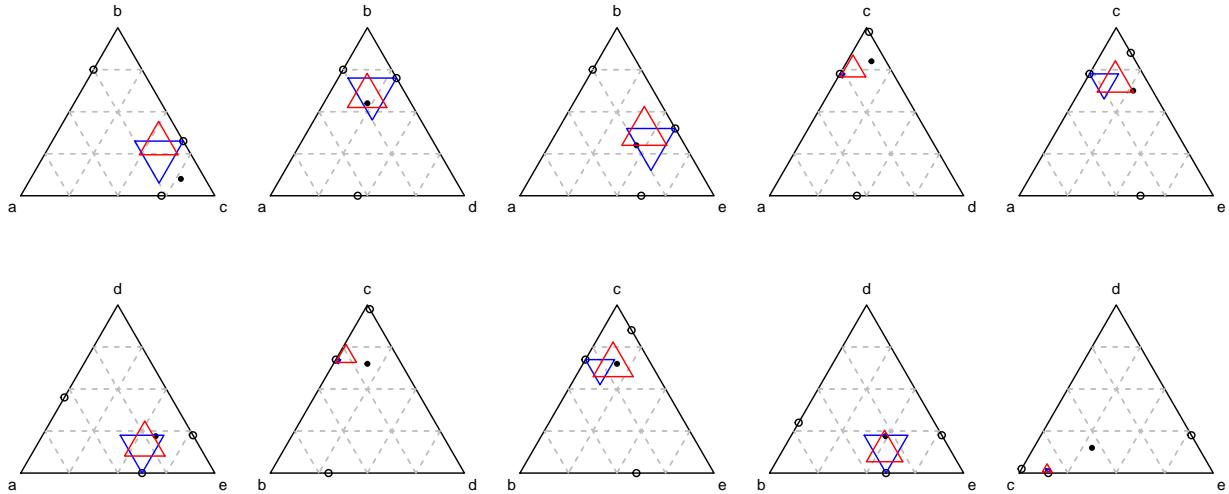


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 11, music

The prompt question and the universe of five response options in the choice domain `music` are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

- Which one of the following musical artists do you like the best?
- a. The Beatles
 - b. Elvis Presley
 - c. Michael Jackson
 - d. Madonna
 - e. Elton John

The choice objects in this domain are the top selling musical artists of all time, according to Wikipedia. They should be familiar to a large majority of respondents.

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.



Figure 1: Screenshot from experiment for choice domain music

Choice data for domain 11, music

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 29.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	29	11	26	14	26	14	25	15	23	17
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	27	13	22	18	26	14	22	18	13	27
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	19	8	13	22	13	5	15	11	14	25
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	7	8	24	8	8	20	7	13	21	11
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	8	9	14	18	15	9	16	17	4	19
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	19	8	11	2	15	5	14	6	20	5
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	5	10	14	10	4	12	12	11	3	15
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	12	9	12	2	5					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

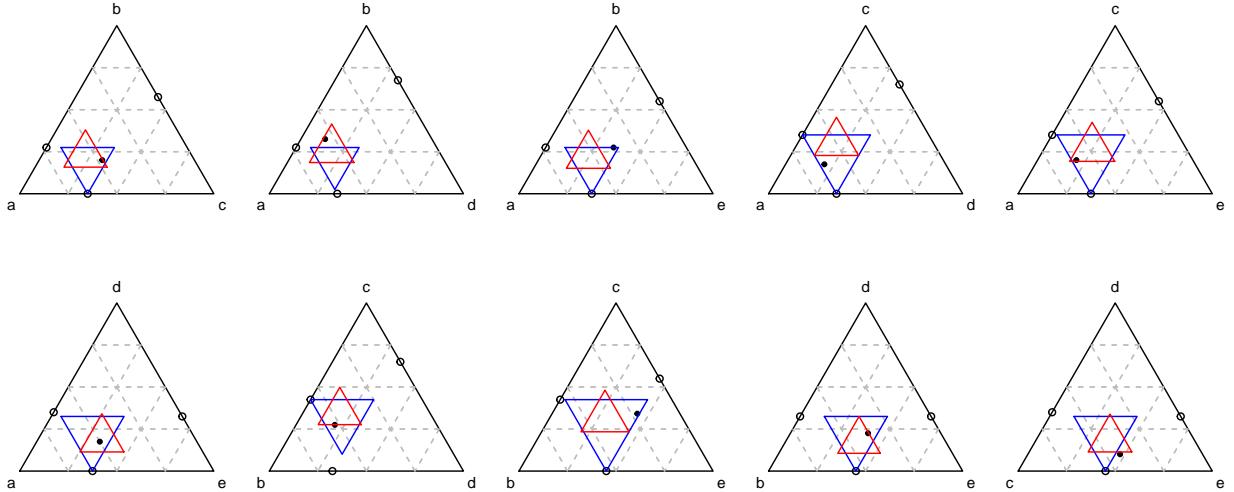


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 12, aboriginal_art

The prompt question and the universe of five response options in the choice domain `aboriginal_art` are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

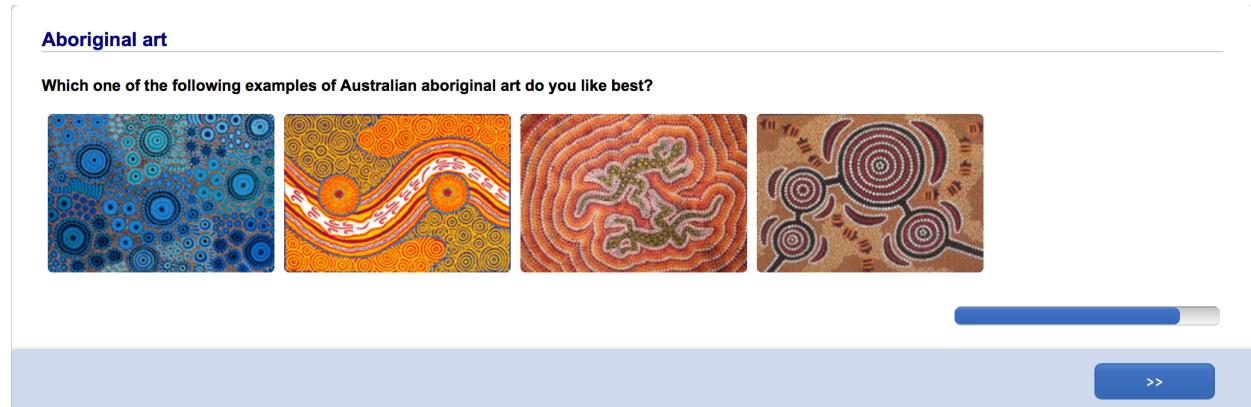
Which one of the following examples of Australian aboriginal art do you like the best?

- a. 
- b. 
- c. 
- d. 
- e. 

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

Aboriginal art

Which one of the following examples of Australian aboriginal art do you like best?



The screenshot shows a user interface for a choice domain. At the top, the title "Aboriginal art" is displayed in a blue header. Below it, a question asks, "Which one of the following examples of Australian aboriginal art do you like best?". Five small images of Aboriginal dot paintings are shown in a row: (a) a blue and white circular pattern; (b) a grey and black wavy pattern; (c) a red and green swirling pattern; (d) a brown and white circular pattern; and (e) an orange and yellow wavy pattern. A blue progress bar is located at the bottom of the screen, and a blue button with the text "»" is positioned to its right.

Figure 1: Screenshot from experiment for choice domain `aboriginal_art`

Choice data for domain 12, aboriginal_art

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 28.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	28	12	23	17	21	19	30	10	11	29
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	12	28	15	25	15	25	23	17	23	17
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	18	9	13	19	6	15	19	6	15	19
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	14	7	23	10	7	14	11	15	11	18
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	11	8	19	13	5	21	14	15	13	12
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	14	8	12	7	15	6	11	8	17	9
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	7	7	18	12	6	5	9	8	9	14
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	25	2	6	2	5					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

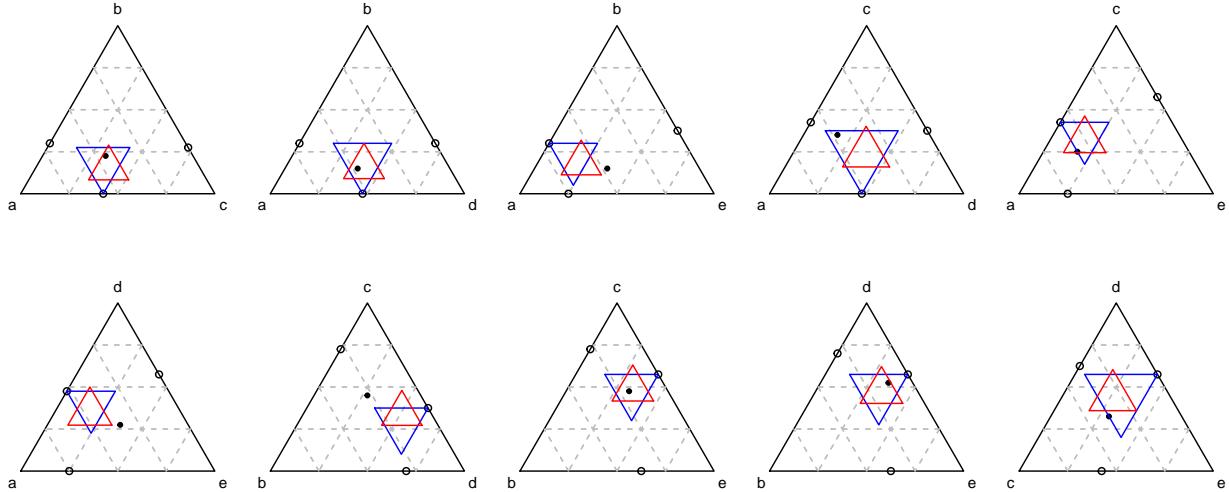


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 13, `impressionist_art`

The prompt question and the universe of five response options in the choice domain `impressionist_art` are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

Which one of the following examples of Impressionist art do you like the best?



a.



b.



c.



d.



e.

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

Impressionist art

Which one of the following examples of Impressionist art do you like best?



>>

Figure 1: Screenshot from experiment for choice domain `impressionist_art`

Choice data for domain 13, impressionist_art

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 26.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	26	14	26	14	24	17	23	17	20	20
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	20	20	13	27	12	28	8	32	18	23
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	17	14	9	16	11	13	17	9	14	22
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	8	10	21	3	16	14	5	21	15	6
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	19	11	4	25	11	7	22	3	11	26
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	21	7	7	5	17	6	5	12	19	9
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	3	9	16	8	4	12	12	2	12	14
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	10	6	6	4	14					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

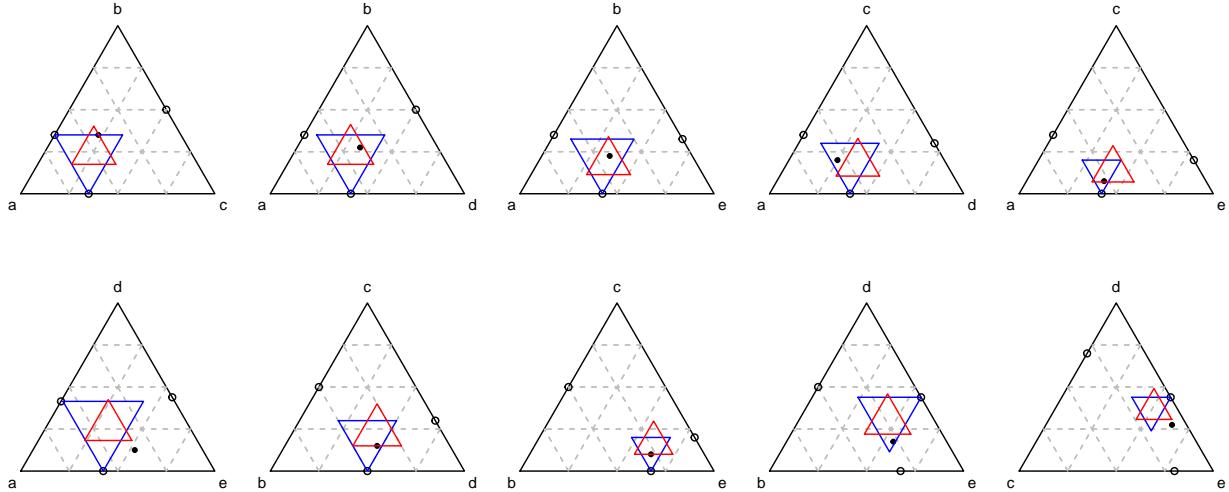


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 14, sentences

The prompt question and the universe of five response options in the choice domain **sentences** are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

- Which one of the following sentences do you find the most grammatically acceptable?
- a. Who did Bill buy the car to please?
 - b. This is a book which reading would be fun.
 - c. Where did Bill buy the car to drive?
 - d. Which man do you wonder when to meet?
 - e. With which pen do you wonder what to write?

This domain consists of sentences that have been used in experiments of linguistic judgement. They are, respectively sentences 7j, 7h, 7p, 7a and 7e in citeasnoun{BardRobeSora96}. Figure 1 of that paper shows acceptability scores for these and other sentences given by two individual linguists, an acceptability score aggregating the scores of four linguists and an acceptability score aggregating the scores of four “naive respondents”, all undergraduate anatomy students. There is broad, but not perfect, agreement in terms of order, and in the following list, they are in decreasing order of acceptability according to the measure aggregating the judgements of four linguists.

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

The screenshot shows a user interface for a linguistic experiment. At the top, there is a blue header bar with the text "Experiment" and "sentences" in white. Below the header, the word "Sentences" is written in bold blue text. A black horizontal line separates this from the main content area. In the main area, the text "Which one of the following sentences do you find most grammatically acceptable?" is displayed in bold black font. Below this, there is a list of five sentence options, each preceded by a small circular checkbox:

- This is a book which reading would be fun.
- Which man do you wonder when to meet?
- With which pen do you wonder what to write?
- Who did Bill buy the car to please?

At the bottom right of the main area, there is a blue rectangular button with a white double-right-pointing arrow icon and the text ">>". Above this button, there is a thin blue horizontal bar.

Figure 1: Screenshot from experiment for choice domain sentences

Choice data for domain 14, sentences

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 22.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	22	19	13	27	28	13	19	21	16	24
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	30	10	19	21	30	10	26	14	6	34
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	20	3	17	21	15	4	17	12	11	16
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	19	5	11	17	12	20	2	18	12	22
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	6	8	24	8	18	4	18	28	1	11
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	10	8	18	4	8	9	15	8	13	10
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	2	15	13	14	5	8	10	17	3	10
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	15	7	16	0	2					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

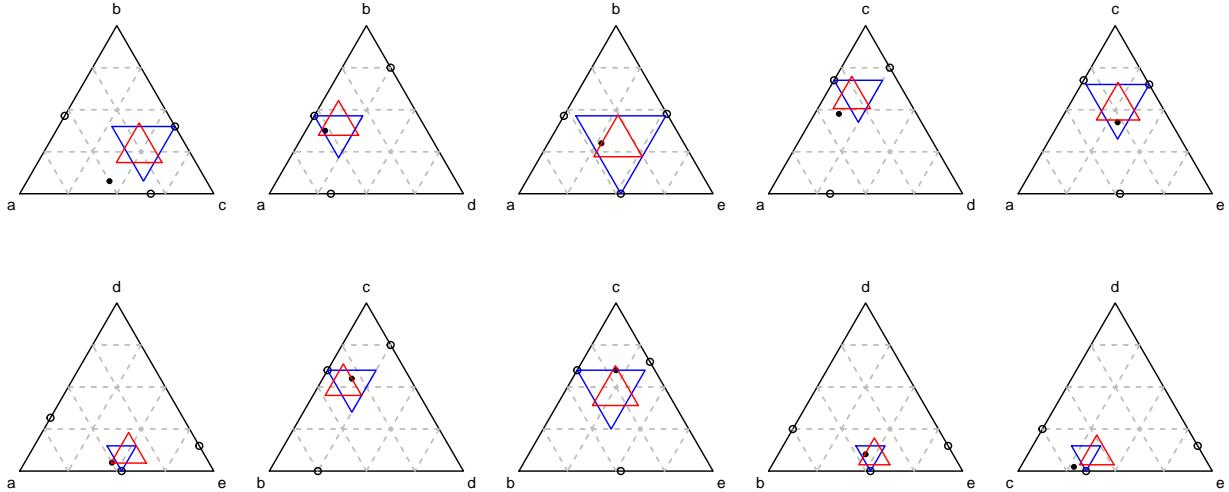


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 15, travel

The prompt question and the universe of five response options in the choice domain **travel** are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

The source is Tripadvisor. These are the top five travel destinations, according to the results of an on-line contest where visitors to a Tripadvisor site could make pairwise choices between travel destinations.

Which one of the following travel destinations would you most like to visit?



a. Marrakech, Morocco



b. Istanbul, Turkey



c. Hanoi, Vietnam



d. Siem Reap, Cambodia



e. Prague, Czech Republic

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

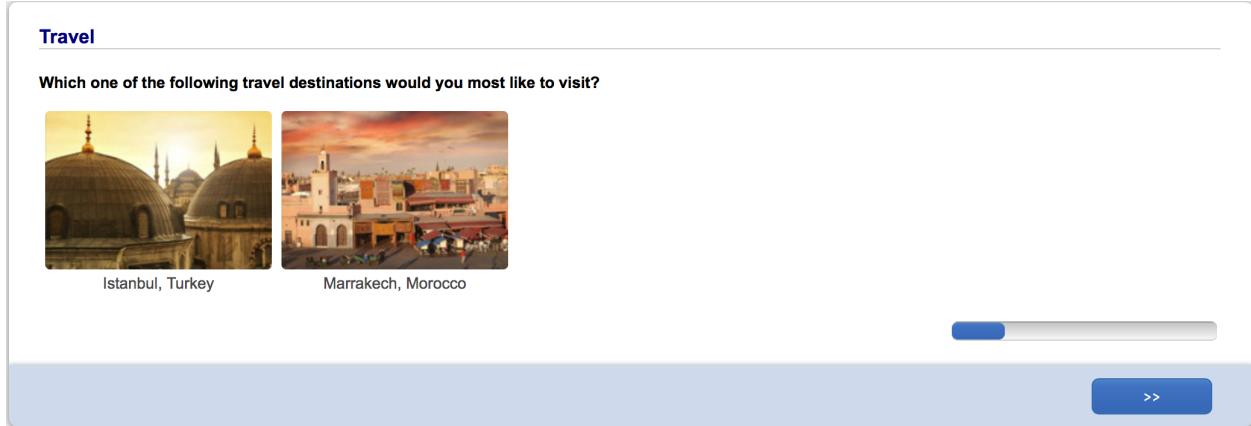


Figure 1: Screenshot from experiment for choice domain travel

Choice data for domain 15, travel

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 27.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	27	13	29	11	30	10	13	28	20	20
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	24	16	9	32	30	10	10	30	8	32
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	19	10	11	20	14	6	11	5	24	24
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	12	4	15	8	17	13	3	24	16	17
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	7	7	4	29	9	4	27	8	5	27
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	15	7	10	8	13	2	2	23	8	6
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	8	18	10	3	2	25	5	9	2	24
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	10	4	4	1	21					

The following figure shows realized choice frequencies for all doubleton and tripleton menus. Each panel shows choice frequencies for all doubleton and tripleton subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

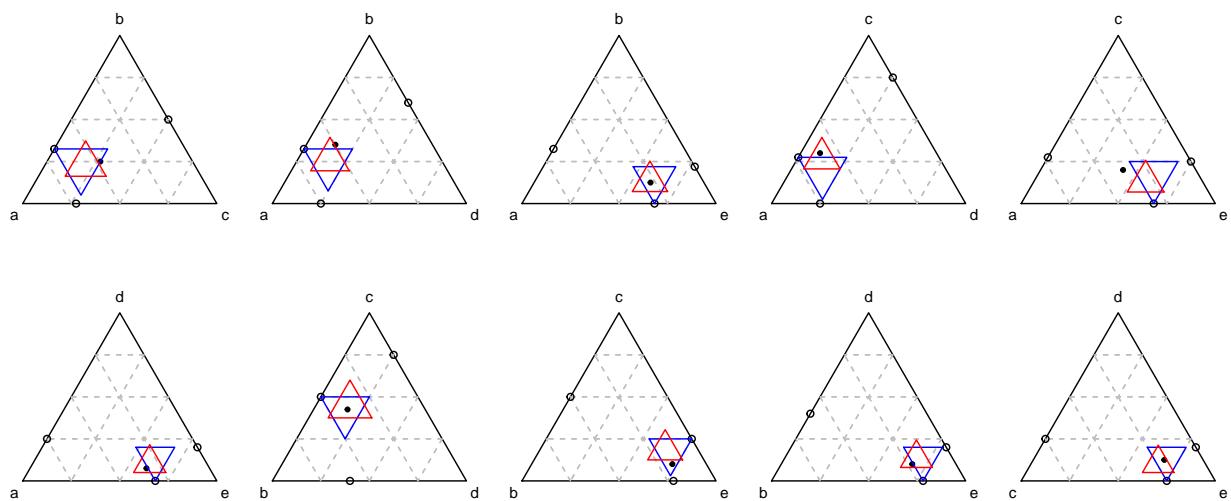


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 16, marijuana

The prompt question and the universe of five response options in the choice domain `marijuana` are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

This question elicits policy preferences.

- Which one of the following marijuana policies would you choose?
- a. Possession by, and sales to adults are both legal; sales to minors are illegal.
 - b. Possession by, and sales to adults are both illegal but neither is a criminal offense; sales to minors are a criminal offense.
 - c. Possession is illegal but not criminal; all sales are a criminal offense.
 - d. Possession and sales are criminal offenses, with a small number of medical exceptions.
 - e. Possession and sales are criminal offenses, without exception.

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

The screenshot shows a user interface for a survey or experiment. At the top, the word "Marijuana" is written in blue. Below it, a question is displayed in bold black text: "Which one of the following policies on marijuana would you consider the most acceptable?". Three radio button options are listed:

- Possession would be illegal but not criminal; all sales would be a criminal offense
- Possession by, and sales to, adults would be both legal; sales to minors would be a criminal offence
- Possession by, and sales to, adults would be both illegal but neither would be a criminal offense; sales to minors would be a criminal offence

A horizontal progress bar is visible above a large blue button at the bottom right of the screen, which contains the text ">>".

Figure 1: Screenshot from experiment for choice domain marijuana

Choice data for domain 16, marijuana

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 30.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	30	10	30	10	27	13	35	6	29	11
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	23	17	22	18	15	26	32	8	34	6
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	27	8	5	22	8	10	20	9	11	27
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	4	9	28	8	4	23	11	6	23	5
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	12	24	11	5	22	14	4	18	14	8
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	22	4	5	9	26	6	2	6	25	2
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	10	3	21	8	6	5	14	6	15	5
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	21	4	2	8	5					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

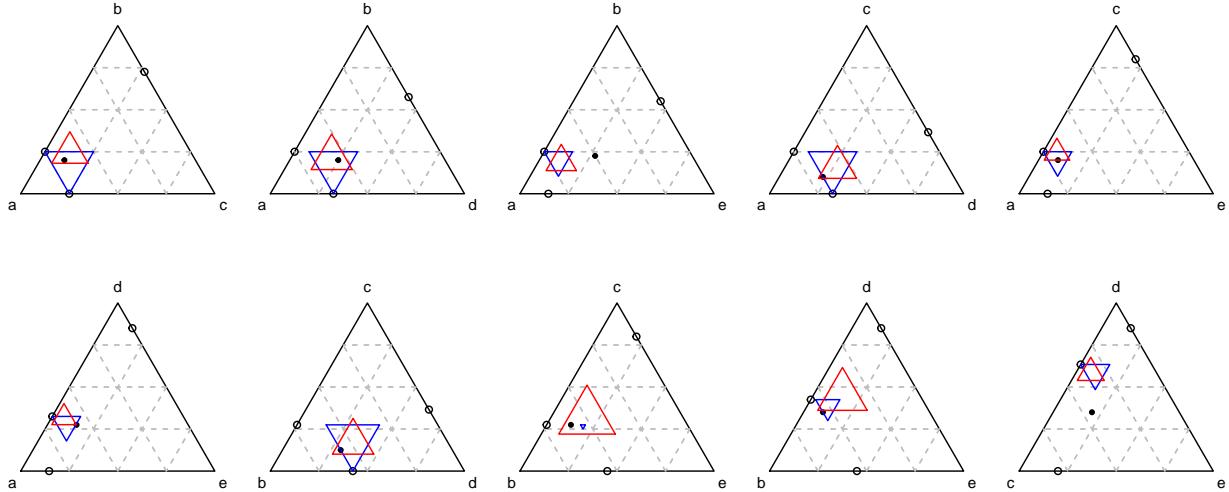


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 17, latitude

The prompt question and the universe of five response options in the choice domain `latitude` are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

- Which one of the following cities do you think is furthest north?
- a. Warsaw, Poland
 - b. London, United Kingdom
 - c. Vancouver, Canada
 - d. Paris, France
 - e. Seattle, United States

The five cities of this domain have a latitude close to 50 degrees north. In the above list, they are ordered from furthest north to furthest south. According to Wikipedia, their latitudes are, respectively, $52^{\circ}14'N$, $51^{\circ}30'N$, $49^{\circ}15'N$, $48^{\circ}51'N$ and $47^{\circ}36'N$. There are two potential asymmetric dominance effects, with Vancouver being fairly obviously north of Seattle and London being fairly obviously north of Paris.

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

Latitude

Which one of the following cities do you think is furthest north?

- Paris, France
- Seattle, United States

>>

Figure 1: Screenshot from experiment for choice domain latitude

Choice data for domain 17, latitude

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 22.

```
print(exper$N$by_Ax)
```

##	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	22	18	31	9	25	16	30	10	29	11
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	32	8	31	9	17	23	36	4	26	14
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	17	16	7	24	14	2	19	15	6	30
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	6	4	30	9	2	26	5	9	24	14
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	2	22	15	3	25	8	7	26	14	0
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	23	4	12	1	9	15	14	2	16	18
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	3	3	33	4	1	2	24	13	3	0
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	19	9	10	2	0					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

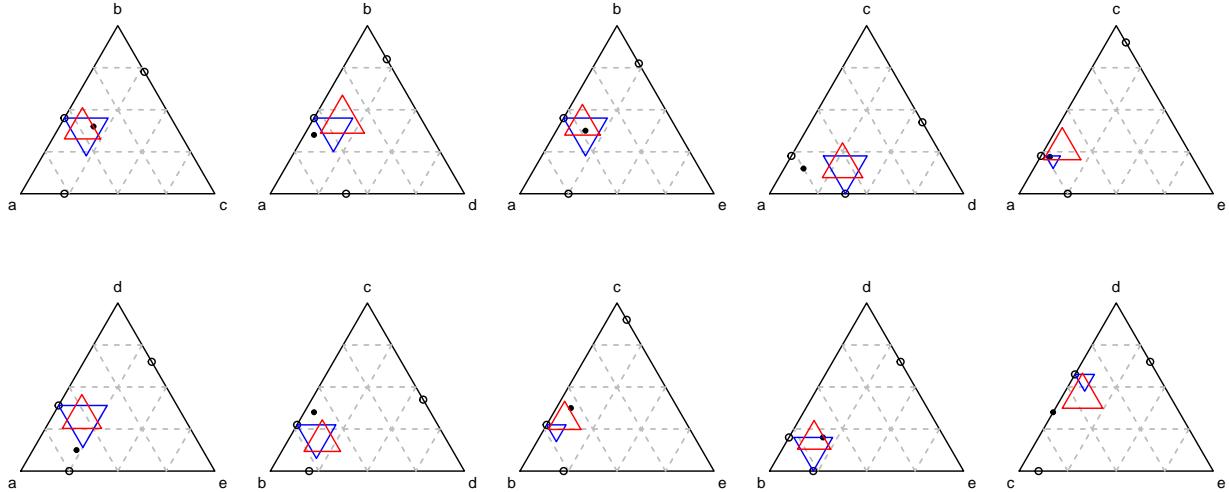
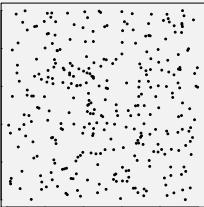


Figure 2: Choice frequencies for all doubleton and triplet choice sets

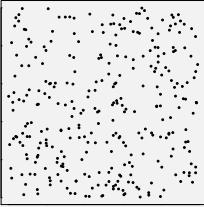
Description of the choice domain 18, dots

The prompt question and the universe of five response options in the choice domain **dots** are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

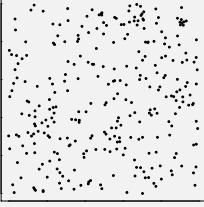
Which one of the following boxes do you think has the greatest number of points?



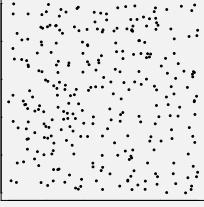
a.



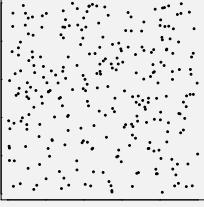
b.



c.



d.



e.

This domain is a perception example. The true numbers of points are, respectively, 320, 310, 300, 290 and 280. It is much clearer that there are more points in the first panel than in the fifth, than that there are more points in the first than in the second. The difference in the number of points is an obvious similarity measure here that might be expected to lead to similarity effects.

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

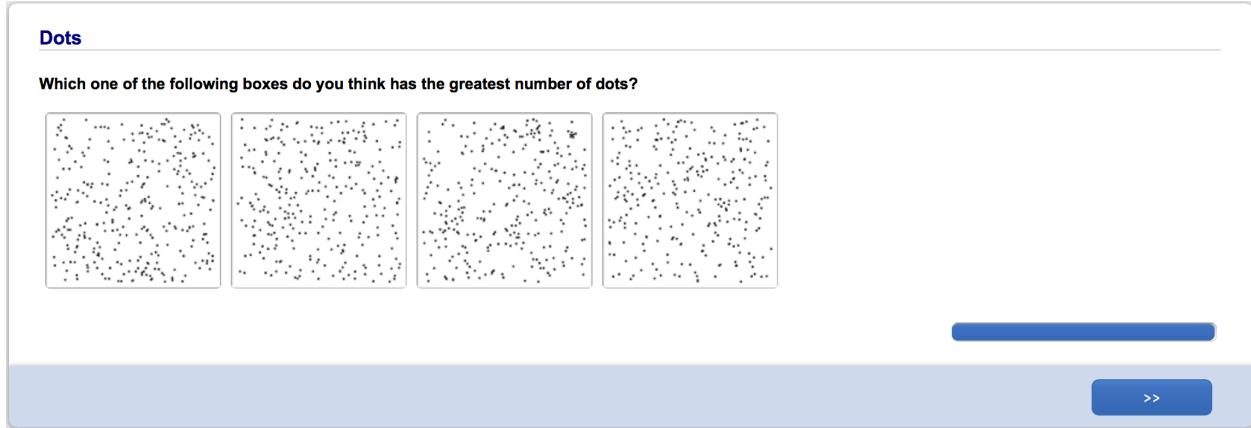


Figure 1: Screenshot from experiment for choice domain dots

Choice data for domain 18, dots

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 31.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	31	9	32	9	27	13	30	10	24	16
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	18	22	21	19	18	22	18	22	27	13
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	28	7	5	29	5	6	24	10	6	24
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	6	10	26	9	6	26	10	4	12	12
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	16	15	9	16	14	20	6	11	20	9
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	22	2	4	12	26	5	4	5	20	7
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	12	1	20	0	12	8	11	3	19	7
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	23	4	2	6	5					

The following figure shows realized choice frequencies for all doubleton and triplet menu. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

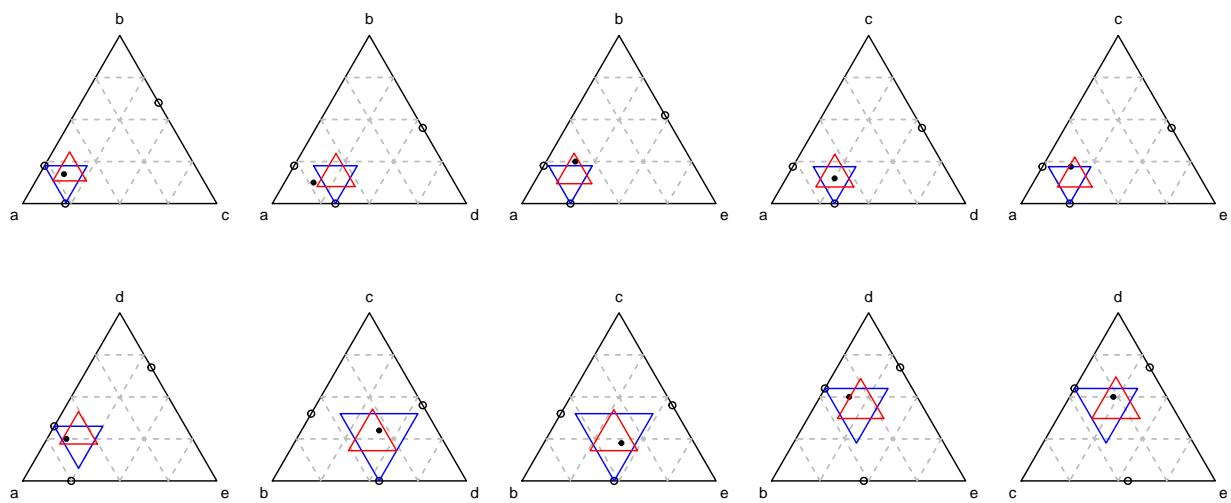
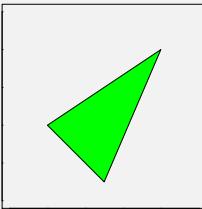


Figure 2: Choice frequencies for all doubleton and triplet choice sets

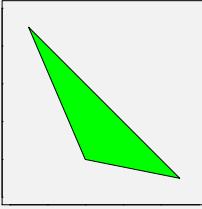
Description of the choice domain 19, triangles

The prompt question and the universe of five response options in the choice domain **triangles** are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

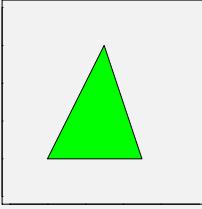
Which one of the following triangles do you think has the greatest area?



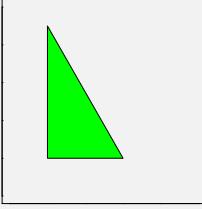
a.



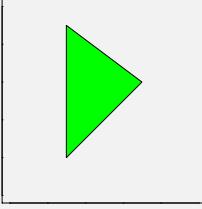
b.



c.



d.



e.

This domain is a perception example. The true areas are, respectively, 16, 15, 15, 14 and 14 units.

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

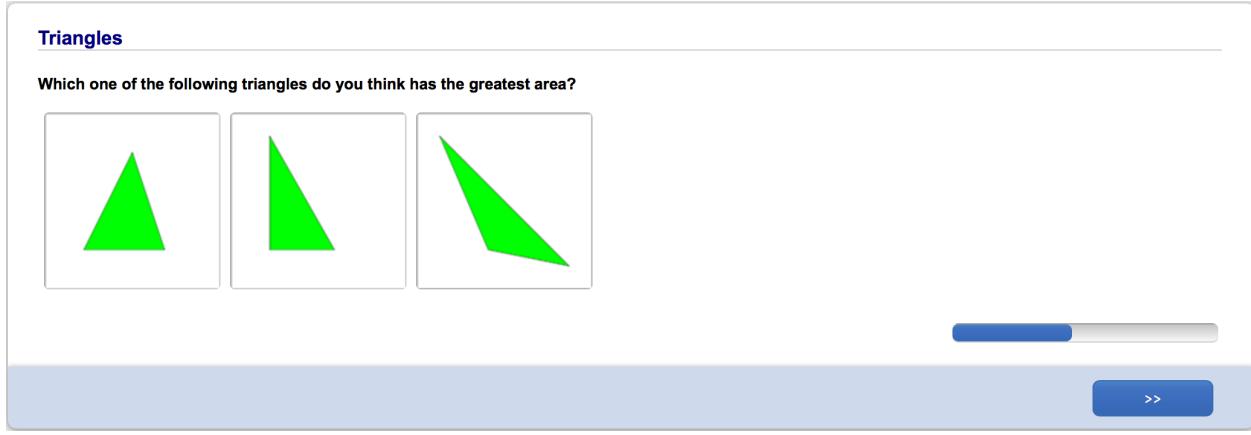


Figure 1: Screenshot from experiment for choice domain triangles

Choice data for domain 19, triangles

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 20.

```
print(exper$N$by_Ax)
```

##	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	20	20	23	17	27	13	23	17	30	10
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	31	9	17	23	26	14	12	28	16	24
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	18	18	4	13	22	6	19	12	9	22
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	7	11	19	7	14	13	3	24	29	9
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	2	14	6	20	13	4	23	5	5	30
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	18	16	3	3	18	12	2	8	14	11
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	5	11	16	4	0	20	18	5	2	15
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	16	17	0	0	7					

The following figure shows realized choice frequencies for all doubleton and tripleton menus. Each panel shows choice frequencies for all doubleton and tripleton subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

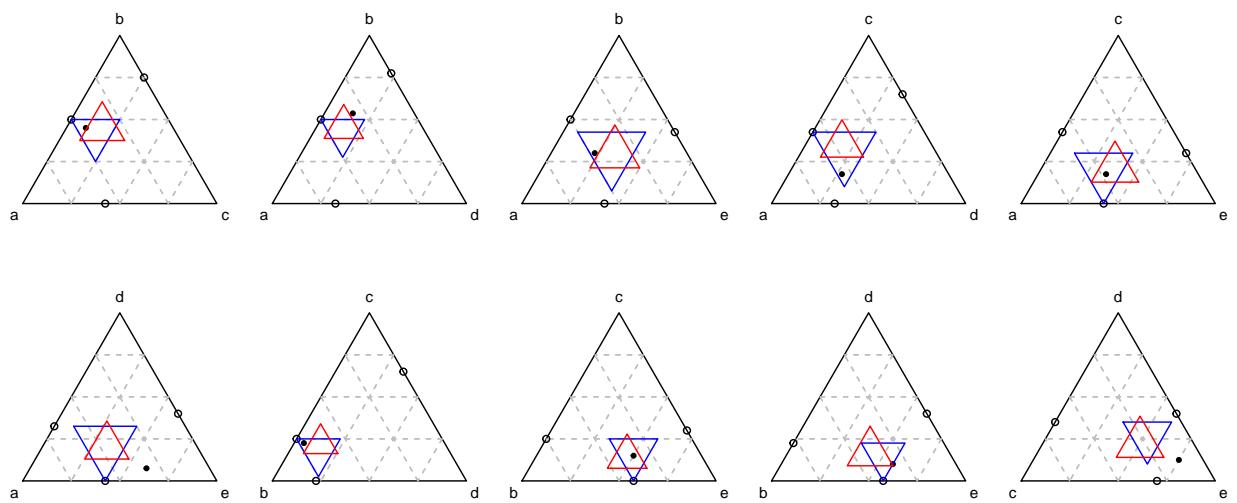


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 20, population

The prompt question and the universe of five response options in the choice domain population are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

These countries were ranked, respectively, 4th through 8th in terms of population in 2016, when their populations, in millions, were 258, 206, 202, 186 and 156.

- Which one of the following countries do you think has the largest population?
- a. Indonesia
 - b. Brazil
 - c. Pakistan
 - d. Nigeria
 - e. Bangladesh

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

The screenshot shows a user interface for a survey. At the top, the word "Population" is written in blue. Below it, a question is displayed: "Which one of the following countries do you think has the largest population?". Underneath the question, there is a list of five countries, each preceded by a small circular input field:

- Indonesia
- Pakistan
- Nigeria
- Brazil

A horizontal progress bar is visible at the bottom of the screen. A blue button with the double-right arrow symbol "gg" is located in the bottom right corner of the interface area.

Figure 1: Screenshot from experiment for choice domain population

Choice data for domain 20, population

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 25.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	25	15	21	19	25	15	18	22	19	21
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	27	13	19	21	30	10	19	21	13	27
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	12	8	20	20	14	6	11	8	22	13
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	17	10	11	12	17	15	4	21	14	17
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	10	15	12	13	15	4	21	19	9	12
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	13	11	14	2	11	11	9	9	15	7
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	3	15	12	17	3	8	13	11	5	11
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	11	10	10	2	7					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

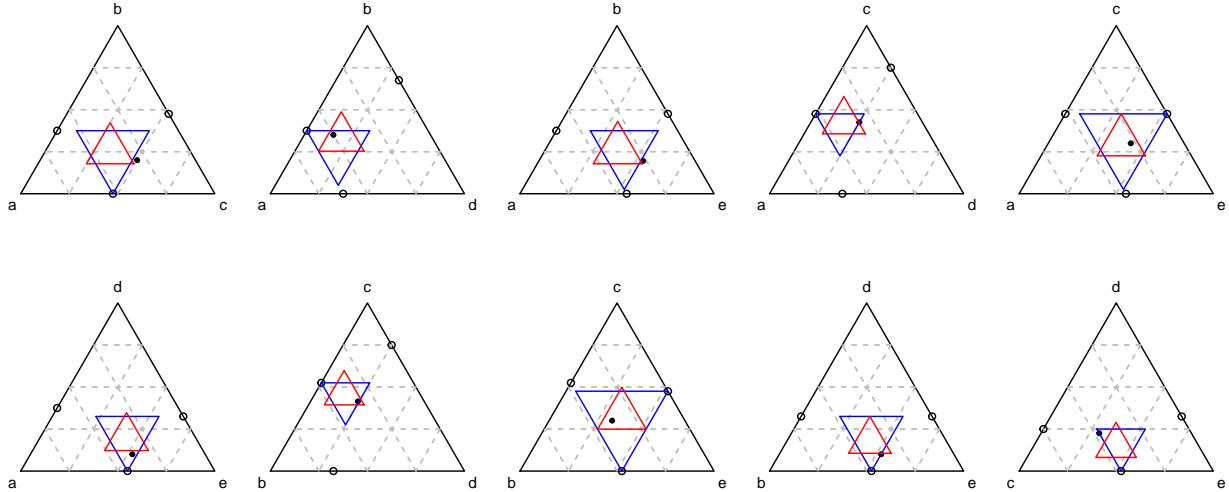


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 21, area

The prompt question and the universe of five response options in the choice domain **area** are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

These countries are ranked, respectively, 2nd through 6th in terms of surface area, including inland bodies of water. In millions of square kilometres, those surface areas are 9.984, 9.573, 9.525, 8.516 and 7.692.

- Which one of the following countries do you think has the greatest surface area, including inland bodies of water?
- a. Canada
 - b. United States of America
 - c. China
 - d. Brazil
 - e. Australia

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

The screenshot shows a user interface for an experiment. At the top, the title "Surface area" is displayed in blue. Below it, a question is presented in bold black text: "Which one of the following countries do you think has the largest surface area, including inland bodies of water?". Underneath the question, there is a list of three options, each preceded by a radio button:

- Brazil
- Canada
- Australia

At the bottom right of the interface, there is a blue rectangular button with a white double-right arrow icon and the text ">>".

Figure 1: Screenshot from experiment for choice domain area

Choice data for domain 21, area

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 37.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	37	3	38	2	40	1	38	2	24	16
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	30	11	24	16	23	17	23	17	14	26
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	31	5	4	31	9	0	35	3	2	34
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	5	1	34	3	3	36	0	4	23	13
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	4	20	12	8	21	4	15	25	3	12
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	30	3	5	2	27	7	4	2	27	5
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	2	6	34	5	0	1	12	17	3	8
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	26	5	6	0	3					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

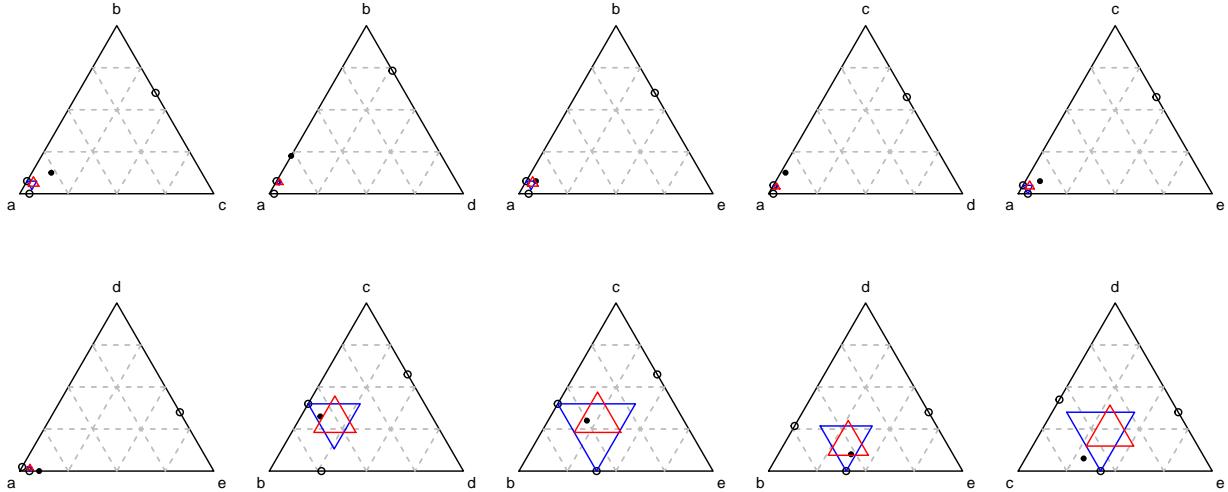


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 22, beer

The prompt question and the universe of five response options in the choice domain **beer** are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

This domain is from an experiment reported in citeasnoun{HuberPaynPutto82} used to illustrate an asymmetric dominance effect. The prices are multiplied by 5 and we added choice objects *d* and *e* to allow for two more asymmetric dominance effects and two similarity effects. The first panel of Figure ?? show the choice objects in attribute space. Table ?? shows the relations of dominance, similarity and betweenness among objects associated with context effects. The most commonly used domains to illustrate the attraction effect involve Beer, Cars, Apartments, Computers, Restaurants and Televisions.

Below you will find three brands of beer. You know only the price per sixpack and the average quality ratings made by respondents in a blind taste test. Given that you had to choose one brand to buy on this information alone, which one would you choose?

ID	Price/sixpack	Average quality rating (100 = Best; 0 = Worst)
a.	\$9.00	50
b.	\$13.00	70
c.	\$15.00	70
d.	\$14.00	75
e.	\$15.00	80

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

Beer

Below you will find three brands of beer. You know only the price per sixpack and the average quality ratings made by subjects in a blind taste test. Given that you had to choose one brand to buy on this information alone, which one would you choose?

Price/Sixpack	Average quality rating (100=Best; 0=Worst)
<input type="radio"/>	\$9.00 50
<input type="radio"/>	\$15.00 80
<input type="radio"/>	\$14.00 75
<input type="radio"/>	\$15.00 70

>>

Figure 1: Screenshot from experiment for choice domain beer

Choice data for domain 22, beer

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 16.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	16	24	19	21	22	18	17	23	36	4
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	19	21	24	17	5	35	3	37	19	21
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	7	31	2	13	17	10	13	14	13	13
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	2	25	8	6	26	11	12	17	17	2
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	21	10	1	29	12	13	16	0	14	26
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	14	9	1	16	12	13	2	13	12	7
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	4	17	10	0	12	18	9	1	10	20
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	4	12	1	11	12					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

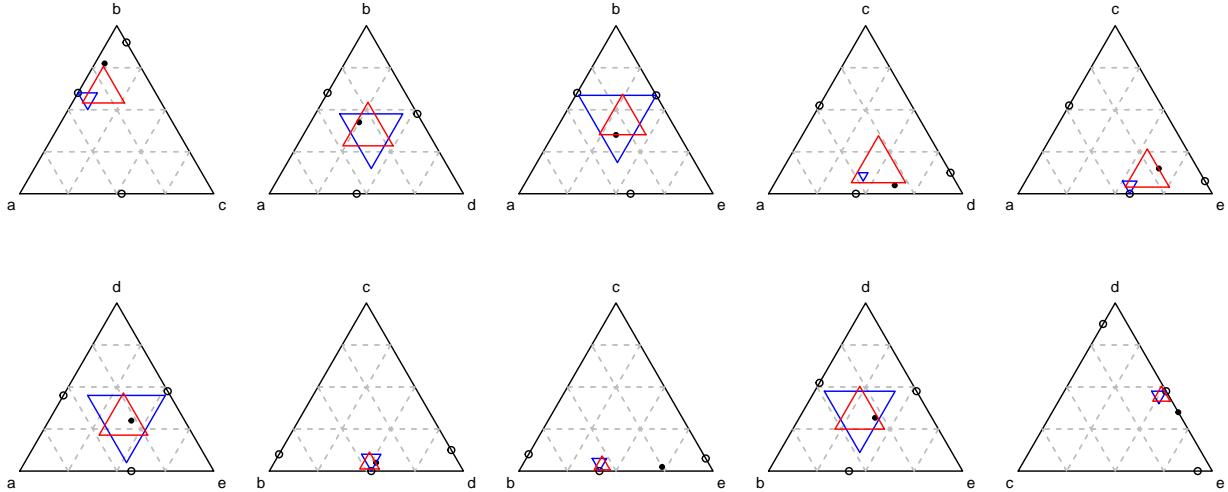


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 23, cars

The prompt question and the universe of five response options in the choice domain **cars** are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

This domain is based on an experiment from citeasnoun{WedePett96}. There are two experiments involving cars in that article, the experiment in question is numbered 18 in the appendix to that paper. Objects below have the same attributes as in that experiment and a similar range of levels. We adapted the objects to allow for compromise effects. The second panel of Figure ?? shows the choice objects in attribute space. Table ?? shows the relations of dominance, similarity and betweenness among objects associated with context effects.

Which one of the following cars would you choose to drive, all other features begin equal? Ride quality is a on a scale of 0 to 100.

ID	Ride quality	Miles per gallon
a.	60	30
b.	80	24
c.	70	27
d.	55	28
e.	75	22

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

Cars

Which one of the following similarly priced cars would you choose to drive, based on the percentage of owners who indicated that they "would buy again," and the fuel economy rating?

Percentage responding "would buy again"	Fuel economy rating (a lower rating means more fuel efficient) in litres per 100km
<input type="radio"/> 75.0	9.5
<input type="radio"/> 65.0	7.5
<input type="radio"/> 72.5	10.0

>>

Figure 1: Screenshot from experiment for choice domain cars

Choice data for domain 23, cars

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 11.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	11	29	12	28	19	21	21	20	21	19
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	21	19	24	16	29	11	28	12	14	26
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	8	21	11	4	27	10	7	19	14	11
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	17	12	6	20	14	10	10	20	12	15
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	13	16	13	11	6	16	18	9	12	19
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	2	20	10	8	6	14	13	7	3	17
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	4	16	8	16	6	10	9	10	8	13
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	4	11	7	14	4					

The following figure shows realized choice frequencies for all doubleton and triplet menus. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

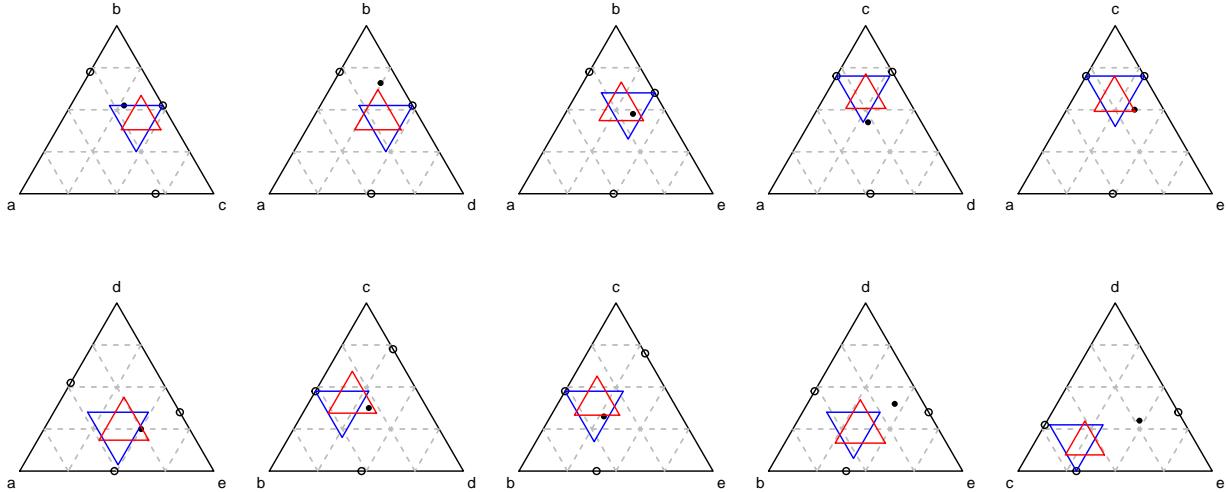


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 24, restaurants

The prompt question and the universe of five response options in the choice domain `restaurants` are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

Which one of the following restaurants would you choose for your next restaurant meal, based on transportation time (in minutes) and average customer ratings (from 1 to 5).

ID	Transportation time	Rating
a.	34	4.4
b.	22	4.0
c.	19	3.9
d.	7	3.5
e.	22	3.9

This domain is based on another experiment in citeasnoun{WedePett96}, numbered 19 in the appendix to that paper. The third panel of Figure ?? shows the choice objects in attribute space. Table ?? shows the relations of dominance, similarity and betweenness among objects associated with context effects.

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

Restaurants

Which one of the following restaurants would you choose for your next restaurant meal, based on transportation time and average customer ratings (from 1 to 5).

Transportation time	Rating
<input type="radio"/> 22 minutes	3.9
<input type="radio"/> 34 minutes	4.4

>>

Figure 1: Screenshot from experiment for choice domain restaurants

Choice data for domain 24, restaurants

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 15.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	15	25	18	22	17	23	20	20	21	19
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	19	21	35	5	13	27	36	4	30	10
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	10	19	11	8	19	13	15	21	4	10
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	12	18	16	19	5	8	14	18	18	11
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	11	27	12	1	23	14	4	21	16	3
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	10	11	8	11	17	11	11	2	11	21
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	8	0	12	16	11	1	15	13	12	0
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	11	9	14	6	0					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

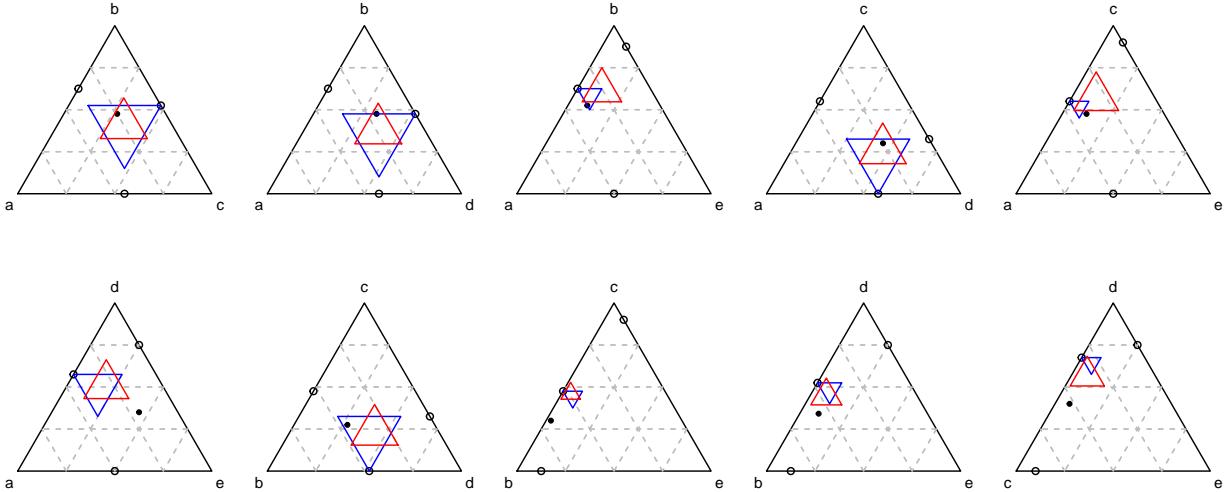


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 25, layovers

The prompt question and the universe of five response options in the choice domain **layovers** are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

Which one of the following flight itineraries would you choose? All involve two flights, with one layover between them.

ID	Total inflight time	Layover time	Total itinerary time
a.	4:00	1:00	5:00
b.	3:24	1:48	5:12
c.	3:15	2:00	5:15
d.	3:06	2:12	5:18
e.	2:30	3:00	5:30

The fourth panel of Figure ?? shows the choice objects in attribute space. Table ?? shows the relations of dominance, similarity and betweenness among objects associated with context effects.

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

Flight Layovers

Which one of the following flight itineraries would you choose? All involve two flights, with one layover between them.

	Total inflight time	Layover time	Total itinerary time
<input type="radio"/>	3:06	2:12	5:18
<input type="radio"/>	4:00	1:00	5:00

>>

Figure 1: Screenshot from experiment for choice domain layovers

Choice data for domain 25, layovers

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 23.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	23	17	28	12	25	15	29	11	24	16
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	32	8	28	12	24	16	31	9	29	12
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	22	10	8	20	6	14	18	13	9	29
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	6	6	22	9	9	26	7	7	23	4
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	13	24	11	5	20	10	10	25	7	8
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	23	6	8	3	19	4	6	11	21	7
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	5	7	19	13	2	6	23	7	3	7
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	18	7	2	5	8					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

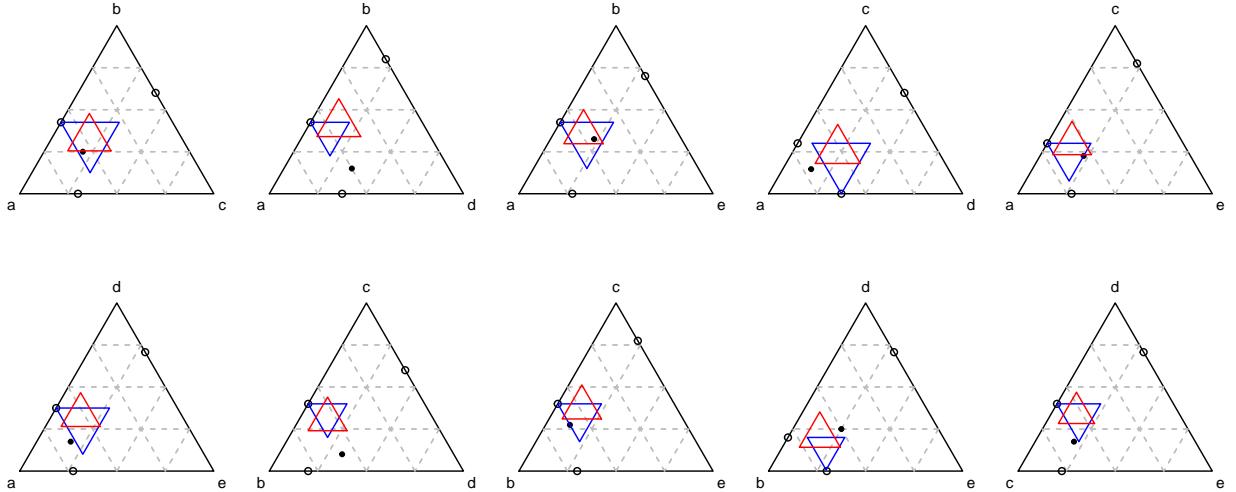


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 26, delayed_choice

The prompt question and the universe of five response options in the choice domain `delayed_choice` are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

Which one of the following would you choose?

- a. \$200 credited to your bank account immediately.
- b. \$245 credited to your bank account in six months.
- c. \$255 credited to your bank account in one year.
- d. \$315 credited to your bank account in two years.
- e. \$465 credited to your bank account in four years.

This domain is loosely based on an experiment by citeasnoun{BenzRapoYagi89}, in which respondents are asked to assign present values equivalent to the receipt of \$200 at time horizons of 0.5, 1, 2 and 4 years. Based on implied discount factors at various terms, we constructed five choice objects designed to have approximately the same present value equivalent.

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

The screenshot shows a user interface for a choice experiment. At the top, the title "Future Payments" is displayed in blue. Below it, a question "Which one of the following would you choose?" is presented in bold black text. A list of five options follows, each preceded by a radio button:

- \$200 credited to your bank account immediately
- \$255 credited to your bank account in one year
- \$245 credited to your bank account in six months
- \$465 credited to your bank account in four years

At the bottom right of the interface, there is a blue button with a double arrow symbol (representing "next") and some other UI elements.

Figure 1: Screenshot from experiment for choice domain `delayed_choice`

Choice data for domain 26, delayed_choice

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 22.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	22	18	22	18	29	11	28	12	27	13
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	28	12	29	11	21	19	29	12	26	14
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	20	11	9	25	8	7	21	7	12	21
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	4	15	24	9	7	25	2	13	31	3
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	6	28	3	10	24	3	13	22	6	12
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	25	8	0	7	23	9	2	6	21	12
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	0	7	26	4	2	8	24	2	5	9
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	19	13	1	1	6					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

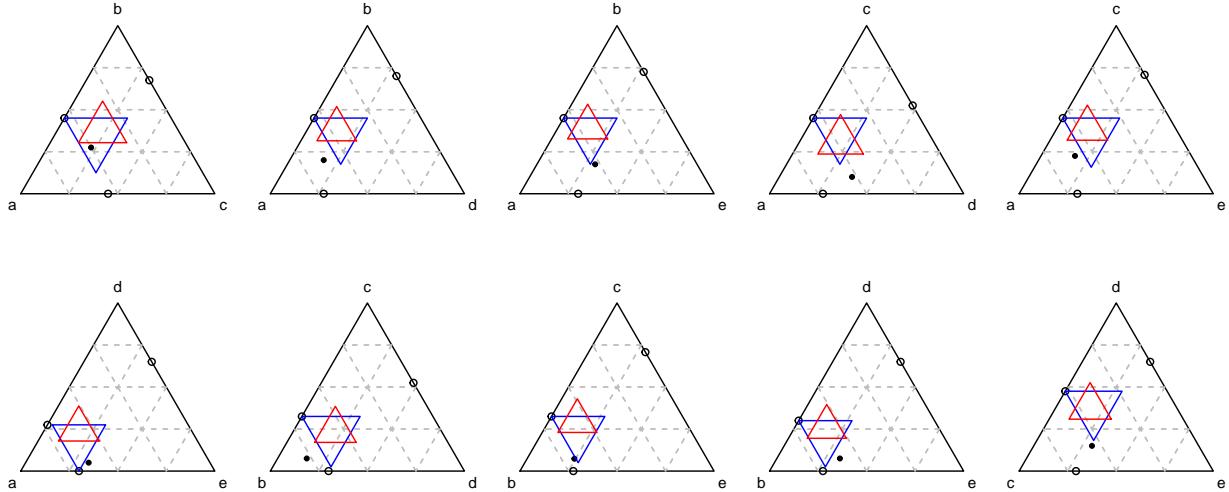


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 27, phone_plans

The prompt question and the universe of five response options in the choice domain phone_plans are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

The source for this domain is the website of Fido Mobile, a Canadian cell phone carrier, with rates quoted on March 1, 2017 in Canadian dollars.

Of the following cell phone plans, which one would you choose? In all cases, unlimited calling, text picture and video messages to Canadian and international mobile numbers are included. Excess data usage is billed at \$10 per 500 MB.

- a. 1 GB data per month, \$35 per month.
- b. 2 GB data per month, \$45 per month.
- c. 4 GB data per month, \$49 per month.
- d. 6 GB data per month, \$54 per month.
- e. 8 GB data per month, \$58 per month.

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

The screenshot shows a user interface for a survey. At the top, there is a blue header bar with the text "Phone plans". Below the header, there is a question in bold black font: "Of the following cell phone plans, which one would you choose? In all cases, unlimited calling, text picture and video messages to Canadian and international mobile numbers are included. Excess data usage is billed at \$10 per 500 MB." Below the question, there is a list of five options, each preceded by a radio button:

- 4 GB data per month, \$49 per month
- 1GB data per month, \$35 per month
- 6GB data per month, \$54 per month

At the bottom right of the screen, there is a blue button with a white double-right arrow icon and the text ">>".

Figure 1: Screenshot from experiment for choice domain phone_plans

Choice data for domain 27, phone_plans

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 20.

```
print(exper$N$by_Ax)
```

##	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	20	20	21	19	19	21	20	20	8	32
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	20	20	15	25	16	24	18	22	23	17
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	12	6	22	11	8	21	13	9	18	14
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	14	12	15	10	16	20	9	11	16	14
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	10	8	18	14	13	8	19	17	10	13
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	18	4	9	9	8	10	8	14	19	8
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	7	6	14	11	6	9	9	19	5	7
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	10	8	10	2	11					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

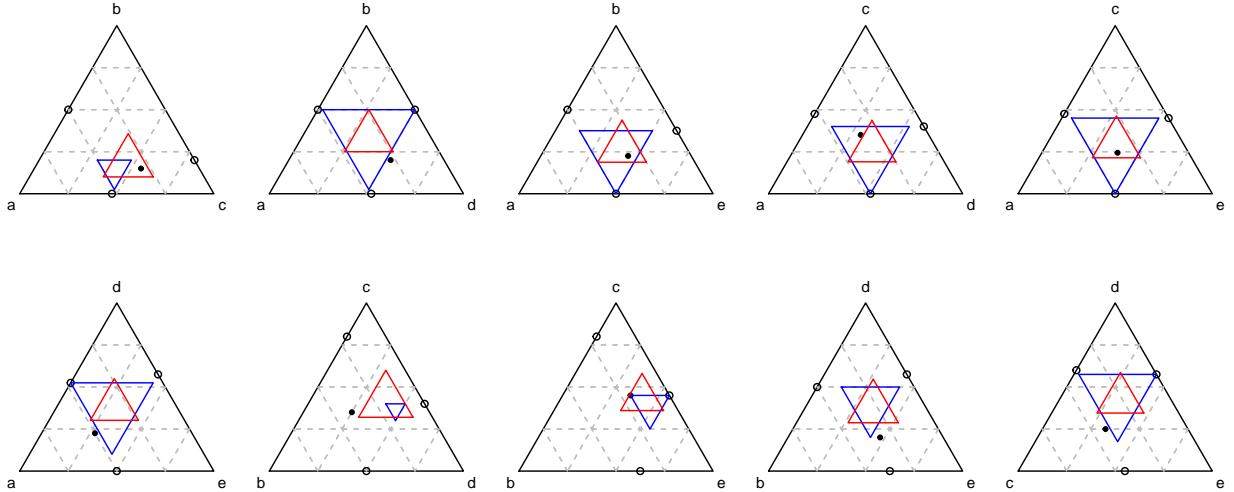


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 28, hotel_rooms

The prompt question and the universe of five response options in the choice domain `hotel_rooms` are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

Using Expedia results, I did a linear regression of price per night on a constant and the Expedia rating, in numbers of stars, for a sample of available hotels. The five levels of numbers of stars correspond roughly to the mean, plus and minus one sample standard deviation and plus and minus two standard deviations. Prices are approximately equal to fitted values in the linear regression.

Suppose you are staying over two nights in New York city. Which one of the following hotels would you choose, based on customer ratings and price per night?

- a. 3.6/5 stars, \$215 per night
- b. 3.9/5 stars, \$263 per night
- c. 4.2/5 stars, \$311 per night
- d. 4.5/5 stars, \$358 per night
- e. 4.8/5 stars, \$406 per night

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

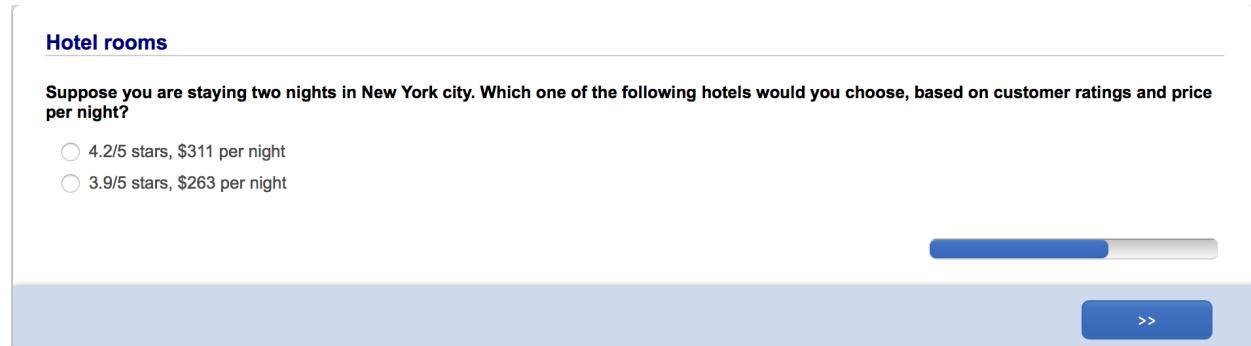


Figure 1: Screenshot from experiment for choice domain `hotel_rooms`

Choice data for domain 28, hotel_rooms

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 32.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	32	8	31	9	33	7	33	7	35	6
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	35	5	34	6	28	12	34	6	30	10
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	25	9	6	22	12	6	19	19	2	24
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	14	2	25	11	4	27	7	6	25	11
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	5	25	11	4	28	9	3	27	11	2
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	22	7	5	6	24	9	6	1	16	19
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	3	2	23	9	3	5	21	13	4	2
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	21	8	7	1	3					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

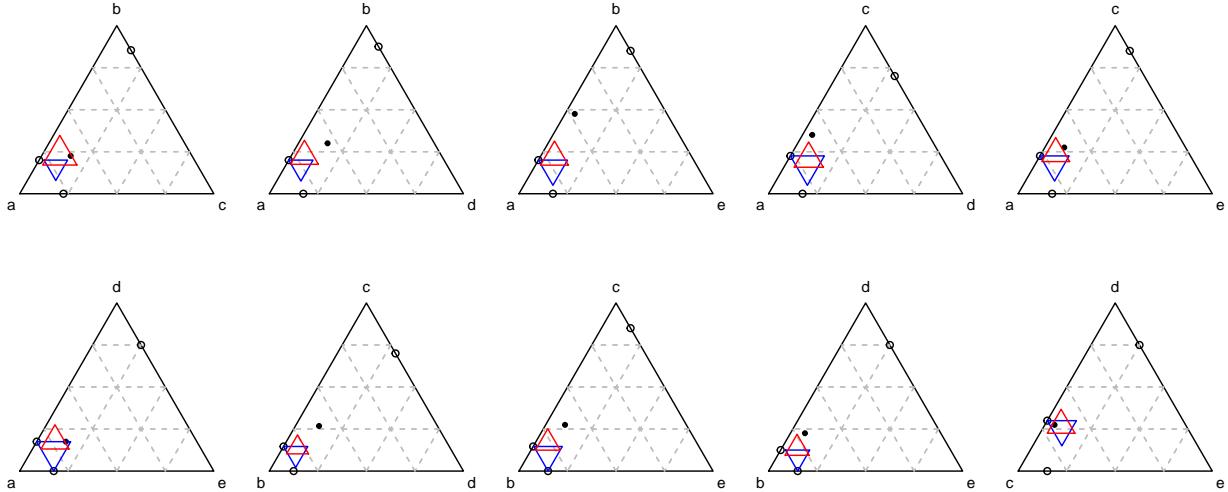


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 29, **itineraries**

The prompt question and the universe of five response options in the choice domain **itineraries** are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

Which one of the following flight itineraries would you choose? All involve two flights and have a total duration of six hours.

ID	1st flight	Layover	2nd flight
a.	1:30	1:15	3:15
b.	3:15	1:15	1:30
c.	2:15	1:30	2:15
d.	1:30	1:45	2:45
e.	2:45	1:45	1:30

This domain illustrates three-way tradeoffs. The points form a constellation in the simplex that resembles the pattern of points on the “five” side of a die.

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

Two-Flight Itineraries

Which one of the following flight itineraries would you choose? All involve two flights and have a total duration of six hours.

	1st flight	Layover	2nd flight
<input type="radio"/>	2:15	1:30	2:15
<input type="radio"/>	1:30	1:15	3:15
<input type="radio"/>	1:30	1:45	2:45
<input type="radio"/>	2:45	1:45	1:30

>>

Figure 1: Screenshot from experiment for choice domain itineraries

Choice data for domain 29, itineraries

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 18.

```
print(exper$N$by_Ax)
```

##	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	18	22	13	27	18	23	21	19	19	21
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	19	21	16	24	21	19	17	23	14	26
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	8	16	16	10	14	16	6	18	16	12
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	19	9	15	12	14	12	10	18	15	10
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	15	20	11	9	20	6	14	16	7	17
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	8	11	16	5	8	10	14	8	8	17
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	7	8	10	12	0	18	15	15	4	6
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	8	8	10	5	9					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

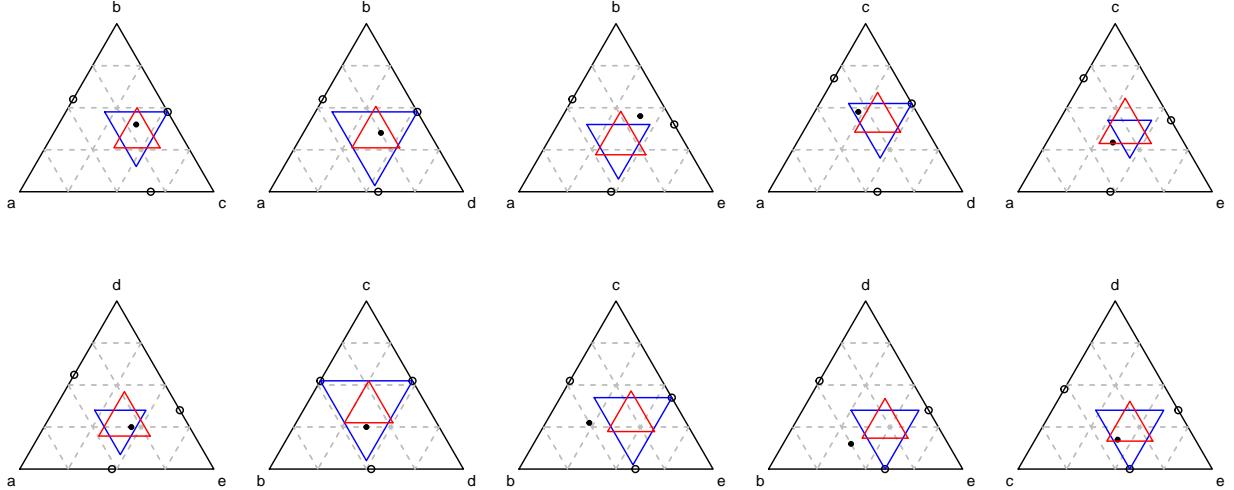


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 30, televisions

The prompt question and the universe of five response options in the choice domain **televisions** are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

Which one of the following televisions would you choose to buy if you were in the market for a television? All are LED televisions. Resolution refers to number of horizontal lines. Smart indicates internet connectivity.

Choice	Brand	Resolution	Smart	Price (\$)	Screen Size (inches)
a.	Sharp	1080	Yes	309	32
b.	Insignia	720	No	209	32
c.	Sony	720	Yes	439	32
d.	Samsung	1080	Yes	459	40
e.	Toshiba	1080	No	409	43

The source for this domain is the website of Best Buy Canada, with prices in Canadian dollars.

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

Televisions

Which one of the following televisions would you choose to buy if you were in the market for a television? All are LED televisions. Resolution refers to the number of horizontal lines. Smart indicates internet connectivity.

Brand	Resolution	Smart	Price (\$)	Screen Size (inches)
Toshiba	1080	No	409	43
Insignia	720	No	209	32
Samsung	1080	Yes	459	40
Sharp	1080	Yes	309	32

>>

Figure 1: Screenshot from experiment for choice domain televisions

Choice data for domain 30, televisions

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 28.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	28	12	30	10	12	28	22	18	20	20
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	1	39	5	35	3	37	15	25	27	14
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	25	7	8	13	4	23	20	2	18	12
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	3	25	22	4	14	7	21	12	5	7
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	28	4	9	27	3	24	13	7	27	6
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	9	1	4	27	15	1	5	19	8	3
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	19	10	6	3	25	6	1	6	21	12
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	6	0	5	21	8					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

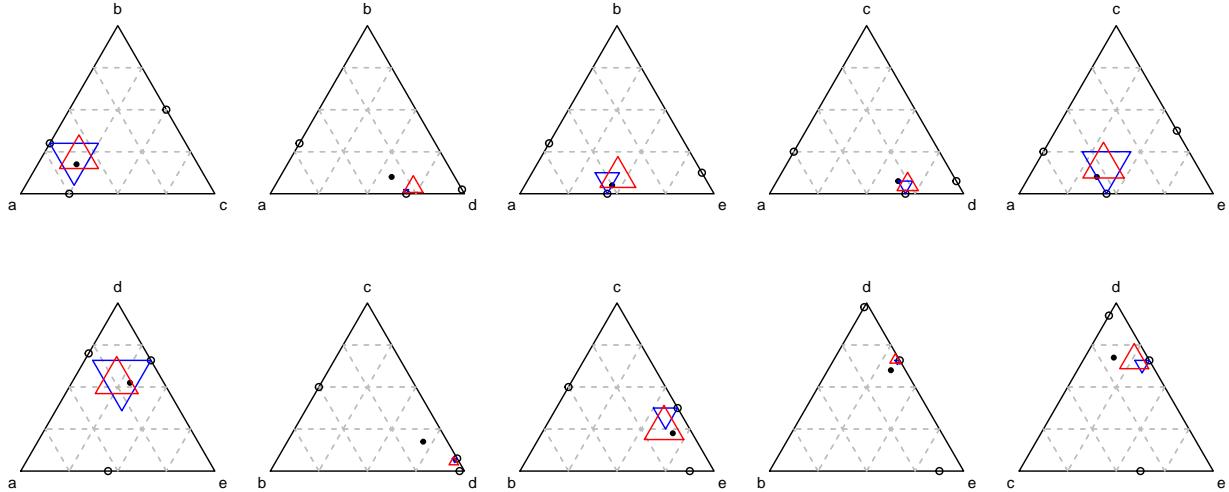


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 31, coffee

The prompt question and the universe of five response options in the choice domain **coffee** are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

You need to buy 16oz of ground coffee for a brunch with friends. Which one of the following ground coffees would you choose?			
ID	Price	Fair Trade	Name: Description
a.	18.71	Yes	Ethiopian Yirgacheffe: vibrant and intensely aromatic, fruity
b.	9.99	No	Colombian Supremo: mellow cup, complex aromas and rich flavours
c.	13.72	Yes	Colombian Organic: medium body, fragrant aroma and mild acidity
d.	12.35	No	Tanzania Peaberry: full bodied coffee, chocolatey aroma, wine-like finish
e.	13.46	No	Sumatra Mandheling: exotic, earthy, bright with low acidity

The source for this domain is the website buycoffeecanada.com, with prices in Canadian dollars.

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

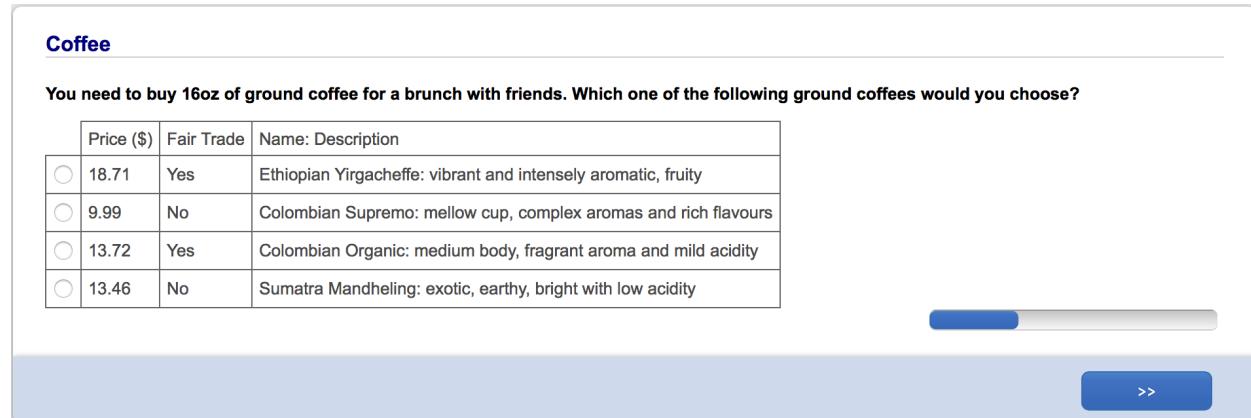


Figure 1: Screenshot from experiment for choice domain coffee

Choice data for domain 31, coffee

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 8.

```
print(exper$N$by_Ax)
```

	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	8	32	7	33	16	24	19	21	23	17
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	30	10	34	6	27	14	33	7	19	21
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	1	14	25	5	25	10	7	28	5	6
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	26	8	9	20	11	8	18	14	23	12
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	5	17	19	4	32	7	2	25	7	8
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	2	18	15	5	3	17	18	2	8	23
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	6	3	4	21	9	6	20	14	6	0
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	4	17	14	2	3					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

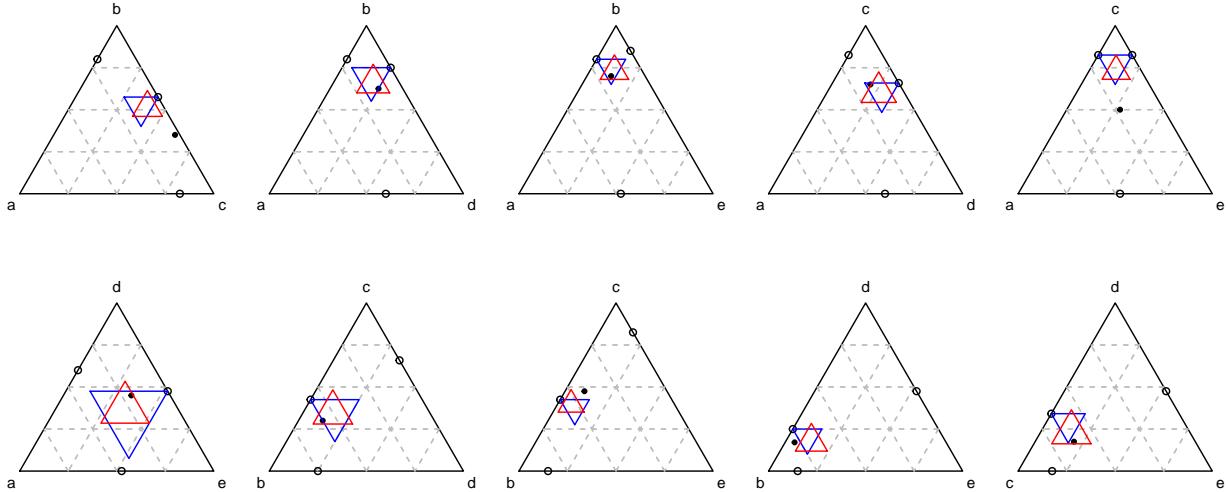


Figure 2: Choice frequencies for all doubleton and triplet choice sets

Description of the choice domain 32, charity

The prompt question and the universe of five response options in the choice domain **charity** are as follows. The labels *a*, *b*, *c*, *d* and *e* were not displayed during the experiment and are indicated here to allow cross-referencing with data and results below.

Suppose someone was donating a total of 100 dollars to a combination of charities, on your behalf. Which one of the following divisions of the 100 dollars would you choose?					
ID	Arthritis Research Canada	Canadian Cancer Society	Canadian Coalition for Firearm Rights	Coalition for Gun Control	
a.	90	10	0	0	
b.	35	60	5	0	
c.	35	60	0	5	
d.	10	80	10	0	
e.	10	80	0	10	

The charities in this domain are real charities. The first two are relatively innocuous in the sense that most people support the goals of both. However, the Canadian Cancer Society attracts much more financial support than Arthritis Research Canada and we might expect that most people would prefer a marginal dollar going to the former. The two other charities have goals that are nearly opposite and elicit strong emotions (of different kinds) from some.

The following figure is a screenshot from the actual experiment, with one of the possible menus for this domain.

Charity

Suppose someone was donating a total of 100 dollars to a combination of charities, on your behalf. Which one of the following divisions of the 100 dollars would you choose?

Arthritis Research Canada	Canadian Cancer Society	Canadian Coalition for Firearm Rights	Coalition for Gun Control
<input type="radio"/> 35	60	0	5
<input type="radio"/> 90	10	0	0
<input type="radio"/> 10	80	10	0
<input type="radio"/> 10	80	0	10

>>

Figure 1: Screenshot from experiment for choice domain charity

Choice data for domain 32, charity

The following table shows all choice count data for this domain. For example, the number of times option a is chosen from menu $\{a, b\}$ is 16.

```
print(exper$N$by_Ax)
```

##	ab;a	ab;b	ac;a	ac;c	ad;a	ad;d	ae;a	ae;e	bc;b	bc;c
##	16	24	13	27	10	30	11	29	6	35
##	bd;b	bd;d	be;b	be;e	cd;c	cd;d	ce;c	ce;e	de;d	de;e
##	27	13	17	23	21	19	25	15	15	25
##	abc;a	abc;b	abc;c	abd;a	abd;b	abd;d	abe;a	abe;b	abe;e	acd;a
##	15	5	20	20	10	10	11	15	14	13
##	acd;c	acd;d	ace;a	ace;c	ace;e	ade;a	ade;d	ade;e	bcd;b	bcd;c
##	13	14	15	12	13	8	9	24	6	26
##	bcd;d	bce;b	bce;c	bce;e	bde;b	bde;d	bde;e	cde;c	cde;d	cde;e
##	8	6	14	20	11	5	24	21	8	11
##	abcd;a	abcd;b	abcd;c	abcd;d	abce;a	abce;b	abce;c	abce;e	abde;a	abde;b
##	10	3	16	11	10	5	8	17	9	9
##	abde;d	abde;e	acde;a	acde;c	acde;d	acde;e	bcde;b	bcde;c	bcde;d	bcde;e
##	5	17	13	12	6	9	6	12	5	17
##	abcde;a	abcde;b	abcde;c	abcde;d	abcde;e					
##	9	2	9	8	12					

The following figure shows realized choice frequencies for all doubleton and triplet menu sets. Each panel shows choice frequencies for all doubleton and triplet subsets of a different 3-element sub-universe. The downward-pointed (blue) triangle shows the set of ternary choice probabilities that are compatible with regularity and the three binary choice frequencies, on the corresponding sub-universe. The upward-pointed (red) triangle shows the set of ternary choice probabilities compatible with the multiplicative inequality and the three binary choice frequencies.

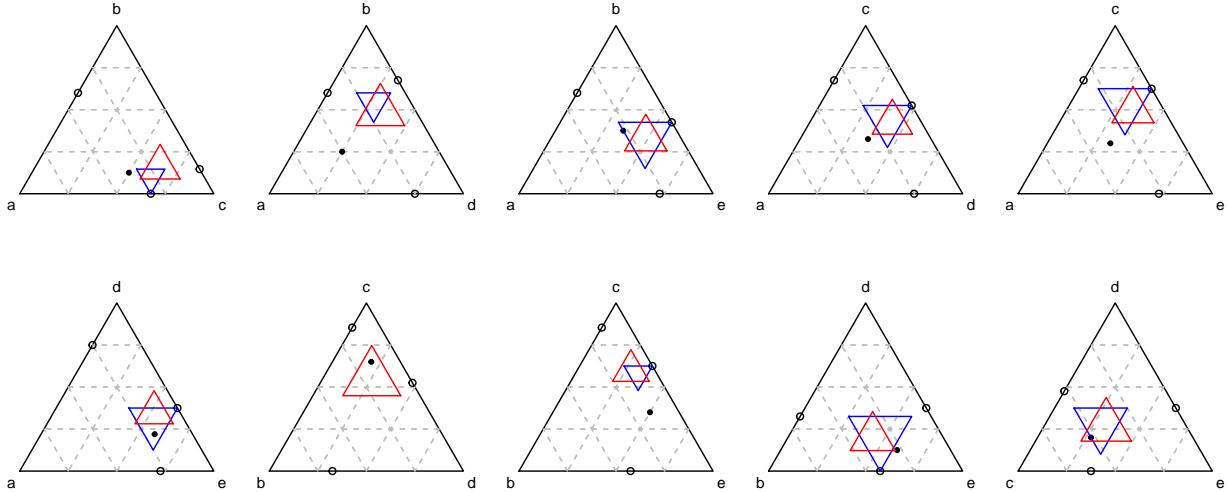


Figure 2: Choice frequencies for all doubleton and triplet choice sets