Show All Solutions

Rosen, Discrete Mathematics and Its Applications, 7th edition
Extra Examples
Section 6.1—The Basics of Counting

Extra Examples — *Page references correspond to locations of Extra Examples icons in the textbook.*

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p.386, icon before Example 1
#1. There are three available flights from Indianapolis to St. Louis and, regardless of which of these flights is taken, there are five available flights from St. Louis to Dallas. In how many ways can a person fly from Indianapolis to St. Louis to Dallas?

See Solution

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p.386, icon before Example 1
#2. A certain type of push-button door lock requires you to enter a code before the lock will open. The lock has five buttons, numbered $1, 2, 3, 4, 5$.

(a) If you must choose an entry code that consists of a sequence of four digits, with repeated numbers allowed, how many entry codes are possible?

(b) If you must choose an entry code that consists of a sequence of four digits, with no repeated digits allowed, how many entry codes are possible?

See Solution

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p.386, icon before Example 1
#3. Count the number of print statements in this algorithm:

```
for i := 1 to n
begin
  for j := 1 to n
    print "hello"
  for k := 1 to n
    print "hello"
end
```

See Solution

p.386, icon before Example 1

#4. Count the number of print statements in this algorithm:

for $i := 1$ **to** n
begin
  for $j := 1$ **to** i
    print "hello"
  for $k := i + 1$ **to** n
    print "hello"
end

See Solution

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p.391, icon at Example 15

#1. Find the number of strings of length 10 of letters of the alphabet, with no repeated letters, that contain no vowels.

See Solution

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p.391, icon at Example 15

#2. Find the number of strings of length 10 of letters of the alphabet, with no repeated letters, that begin with a vowel.

See Solution

p.391, icon at Example 15

#3. Find the number of strings of length 10 of letters of the alphabet, with no repeated letters, that have C and V at the ends (in either order).

See Solution

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p.391, icon at Example 15

#4. Find the number of strings of length 10 of letters of the alphabet, with repeated letters allowed, that have vowels in the first two positions.

See Solution

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p.391, icon at Example 15

#5. Find the number of strings of length 10 of letters of the alphabet, with no repeated letters, that have vowels in the first two positions.

See Solution

p.391, icon at Example 15

#6. Ten men and ten women are to be put in a row. Find the number of possible rows.

See Solution

p.391, icon at Example 15

#7. Ten men and ten women are to be put in a row. Find the number of possible rows if no two of the same sex stand adjacent.

See Solution

p.391, icon at Example 15

#8. Ten men and ten women are to be put in a row. Find the number of possible rows if Beryl, Carol, and Darryl want to stand next to each other in some order (such as Carol, Beryl, and Darryl, or Darryl, Beryl, and Carol).

See Solution

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p.393, icon at Example 18
#1. Find the number of integers from 1 to 400 inclusive that are:

(a) divisible by 6.

(b) not divisible by 6.

See Solution

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p.393, icon at Example 18
#2. Find the number of integers from 1 to 400 inclusive that are:

(a) divisible by 6 and 8.

(b) divisible by 6 or 8.

See Solution

p.393, icon at Example 18

#3. Find the number of strings of length 10 of letters of the alphabet, with repeated letters allowed,
(a) that begin with C and end with V.

(b) that begin with C or end with V.

See Solution