Assignment 1 (worth 3% points)

Started: Feb 11 at 12:02pm

Quiz Instructions

This assignment covers Chapter 1 (Q1-Q5) and Chapter 2 (Q6-Q10).

You have 20 trials to submit your answers. The highest score will be saved in the end.

Late submissions will ALWAYS be rejected!

Question 1 — 10 pts

Chapter 1

A well-known nursery rhyme starts as follows:

"As I was going to St. Ives, I met a man with 6 wives. Each wife had 7 sacks. Each sack had 8 cats.

Each cat had 4 kittens..."

How many kittens did the traveler meet?

Input your answers in the following box (Hint: input an integer)

Question 2 — 10 pts

Chapter 1

Consider a group of 19 people. If everyone shakes hands once with everyone else, how many handshakes take place?

Input your answers in the following box (Hint: input an integer)

Question 3 — 30 pts

Chapter 1

How many different letter arrangments can be made from the following letters: (a) apple, (b) propose, (c) philippines.

Input your answers in the following box (Hint: input an integer)

(a)

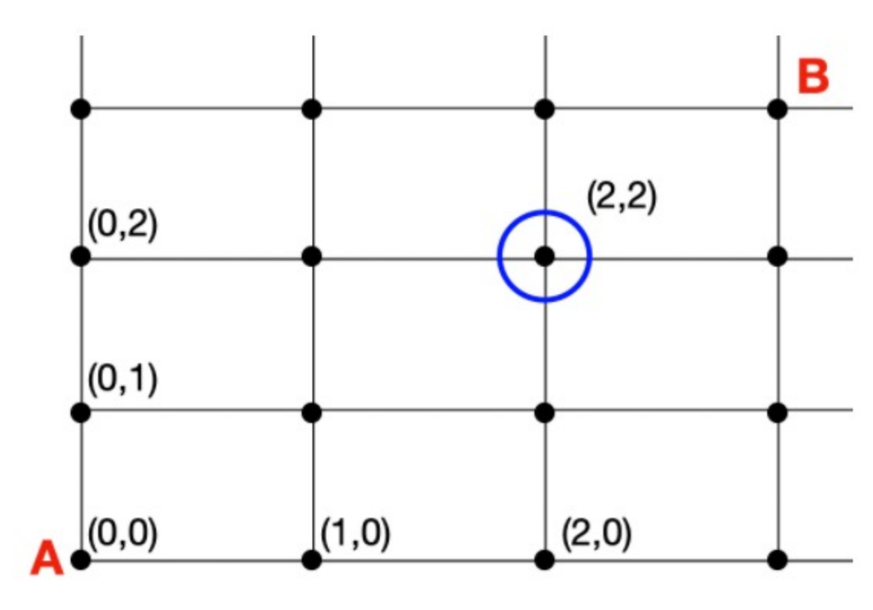
(b)

(c)

Question 4 — 30 pts

Chapter 1

Consider the grid of points shown below. Suppose that, starting at the point labeled A, you can go one step up or one step to the right at each move. This procedure is completed until the points labeled B is reached.



(i): How many possible paths from A to B are possible?

(ii): How many possible paths are there from A to B that goes through the point circled in the grid?

(iii): How many possible paths are there from A to B that avoids the point circled in the grid?

Input your answers in the following box (Hint: input an integer)

(i)

(ii)

(iii)

Question 5 — 20 pts

Chapter 1

From a group of 9 women and 5 men, a committee consisting of 3 men and 3 women is to be formed. How many different committees are possible if

(i): 2 men refuse to serve together?

(ii): 1 man and 1 woman refuse to serve together?

Input your answers in the following box (Hint: input an integer)

(i)

(ii)

Question 6 — 40 pts

Chapter 2

Poker dice is played by simultaneously rolling 6 dice. Compute the following probability:

(i) P({no two alike})   (ii) P({exactly one pair})

(iii) P({exactly two pairs})   (iv)P({exactly three alike})

Input your answers in the following box (Hint: keep exactly 4 decimal places after the decimal point)

(i)

(ii)

(iii)

(iv)

Question 7 — 10 pts

Chapter 2

Two fair dice are rolled. What is the probability that the second number is at least 2 times larger than the first number?

Input your answers in the following box (Hint: give an exact answer or keep exactly 4 decimal places after the decimal point)

Question 8 — 10 pts

Chapter 2

Two fair dice are rolled. What is the probability that the sum of two numbers is odd or smaller than 8?

Input your answers in the following box (Hint: given an exact answer or keep exactly 4 decimal places after the decimal point)

Question 9 — 20 pts

Chapter 2

Three cards are randomly chosen from a standard deck of 52 play cards. Calculate the probability that these three cards

(i) have exactly one pair

(ii) have the same suit

Input your answers in the following box (Hint: keep exactly 4 decimal places after the decimal point)

(i)

(ii)

Question 10 — 20 pts

Chapter 2

Let A, B, C be 3 events. If we know that P(A)=0.2, P(B)=0.4, P(C)=0.6, and $P(A\cup B)=0.5,\ P(B\cup C)=0.7,\ P(A\cup C)=0.7$, and $P(A\cap B\cap C)=0.1$.

Then, what is the probability of $P(A\cup B\cup C)$?

Input your answers in the following box (Hint: given an exact answer or keep exactly 4 decimal places after the decimal point)

Note: if the math equations are not displayed properly, you might need to switch a browser to see them.

Quiz saved at 12:03pm Submit Quiz