

CS 105

Happy Birthday!

Happy Birthday!

Probability that somebody in
this room has a birthday today:

Happy Birthday!

Probability that somebody in
this room has a birthday today:

66.601%

Happy Birthday!

Take a random person.

That person has exactly one birthday.

All possible birthdays: 365.25

Happy Birthday!

Probability of a random person
having a birthday today:

$$\frac{1}{365.25}$$

Happy Birthday!

Probability of a random person
not having a birthday today:

$$\frac{364.25}{365.25}$$

$$= 0.997262$$

Happy Birthday!

Probability of n random people
not having a birthday today :

$$(0.997262)^n$$

Happy Birthday!

Probability of 400 random
people not having a birthday
today:

$$(0.997262)^{400}$$

Happy Birthday!

Probability of 400 random
people not having a birthday
today:

0.33399

Happy Birthday!

Probability of at least one of the
400 random people having a
birthday today:

1-0.33399

Happy Birthday!

Probability of at least one of the
400 random people having a
birthday today:

0.66601

Happy Birthday!

Probability of at least one of the
400 random people having a
birthday today:

66.601%

What Will We Do Today?

Answer a few questions

Continue the iClicker experiment

Look at some random stuff

Play with pivot tables

Housekeeping

Exam

Conflict Exam

Plagiarism

iClicker Experiment

iClicker Experiment

Throughout the lecture, update me
on how you're doing

iClicker Experiment

Throughout the lecture, update me
on how you're doing

A "I'm really happy right now. This is easy"

B "That totally makes sense when I think about it"

C "This is challenging, but I can do it"

D "I am pretty confused"

E "I really wish I weren't here right now"

How Random

`=RAND()`

How Random

=RAND()

returns a pseudo-random value

How Random

`=RAND()`

returns a pseudo-random value

$0 \leq \text{RAND} \leq 1$

In the Real World

In the Real World

we often need whole numbers

In the Real World

we often need whole numbers

=ROUND(RAND(),0)

In the Real World

we often need whole numbers

`=ROUND(RAND(),0)`

Either 0 or 1

Sometimes One Isn't Enough

Sometimes One Isn't Enough

What if you have four choices?

Sometimes One Isn't Enough

What if you have four choices?

Like North, East, South or West

Sometimes One Isn't Enough

What if you have four choices?

Like North, East, South or West

`=ROUND(3*RAND(),0)`

Sometimes One Isn't Enough

What if you have four choices?

Like North, East, South or West

`=ROUND(3*RAND(),0)`

Uh, Why 3?



Sometimes One Isn't Enough

What if you have four choices?

Like North, East, South or West

`=ROUND(3*RAND(),0)`

Always 0, 1, 2 or 3

What a Hassle!

What a Hassle!

There's got to be an easier way!

What a Hassle!

There's got to be an easier way!

There Is.

What a Hassle!

There's got to be an easier way!

There Is.

=RANDBETWEEN(1,4)

What a Hassle!

There's got to be an easier way!

There Is.

=RANDBETWEEN(1,4)

What a Hassle!

There's got to be an easier way!

There Is.

=RANDBETWEEN(1,4)

Always 1, 2, 3 or 4

Let's Review

SUM

COUNT

AVERAGE

VLOOKUP

INDEX

RAND

Ranges

Linear Search

Binary Search

SUMIFS

COUNTIFS

AVERAGEIFS

IF

MATCH

RANDBETWEEN

Relative References

Absolute References

Nested Formulas

Wow! We Made It!



But before you go.....

Well Done!



But before you go.....

One More Question

Today's Lecture Was

- a) Amazing
- b) Nice
- c) Like Any Other
- d) Not So Great
- e) Horrible!