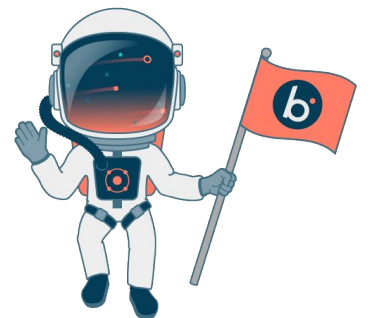# 100%

Boomi, a Dell Technologies business, is committed to providing opportunities for all children to see themselves pursuing a career in STEM. We believe that our industry is strengthened by diversity of every kind, and are actively working to help every child see a future in which they are a part of one of the fastest growing industries of today.

Thank you for joining us for our first virtual GETT event!

As an added bonus for this year, we are running a contest to provide a small number of kids with the opportunity to meet some of our staff and see how a software company works. To enter the contest, please complete the exercises and submit your responses online:
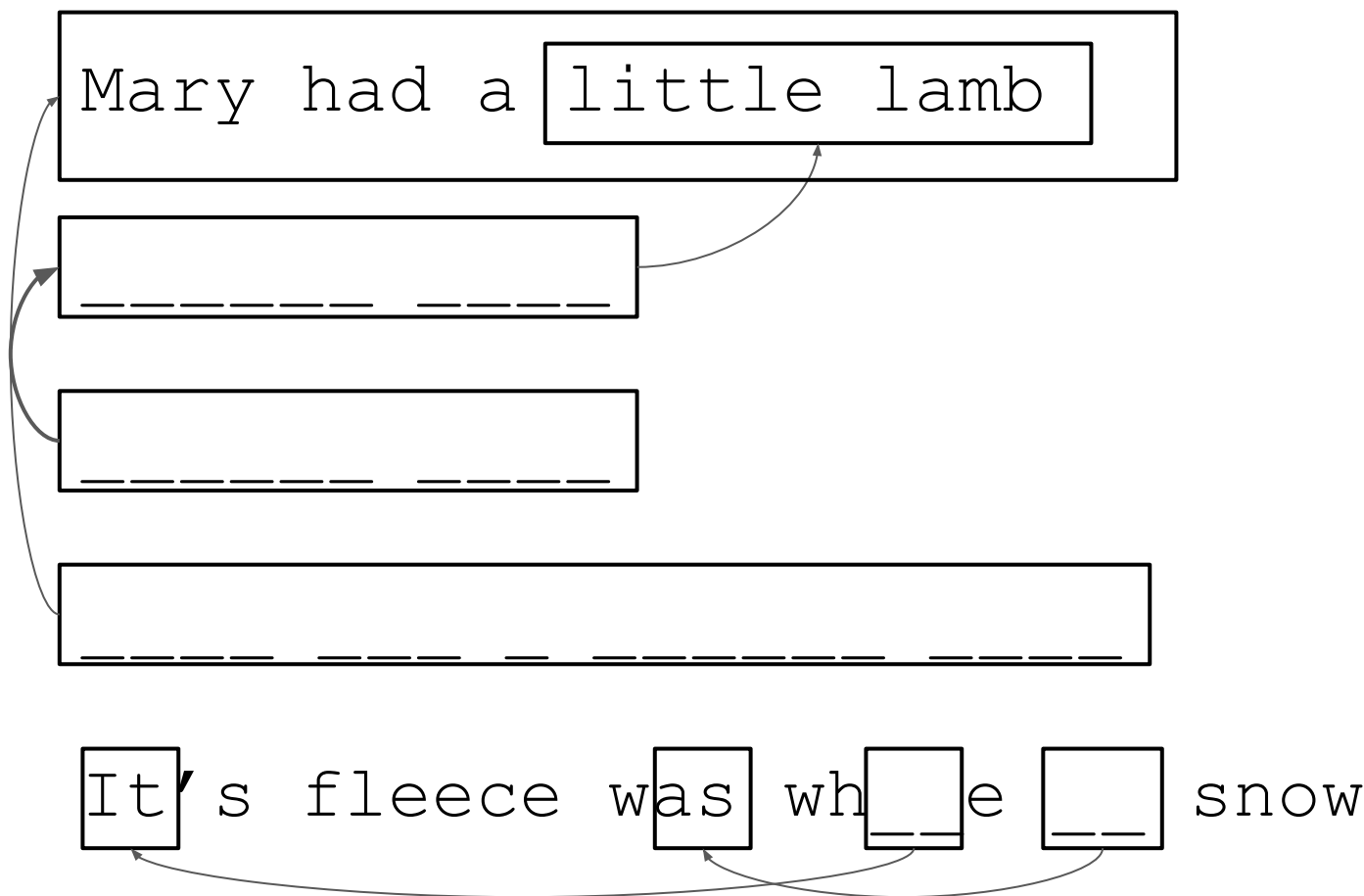
https://boomi.to/GETT2020Contest

In order to save space, computers will often compress files. There are many ways to do this, but primarily, they take advantage of duplications inside a file. If the same block of characters appears over and over, that only needs to be stored once, and future occurrences just need to refer to the first instance.

We can try this out ourselves! Follow the arrows to see what should be filled into each empty block to find the complete original text.

Exercise 1

Mary had a little lamb

_____ ____

_____ ____

_____ ___ _ _____ ____

It's fleece was wh__e __ snow

Exercise 2
Try the same process again with
this larger block of text.

Look at me

____ __ ___

____ __ ___ now

It is fun to have ___

But you ____   __ k__ h__

I can hold up the d__

And ___ milk ___ ___ cake
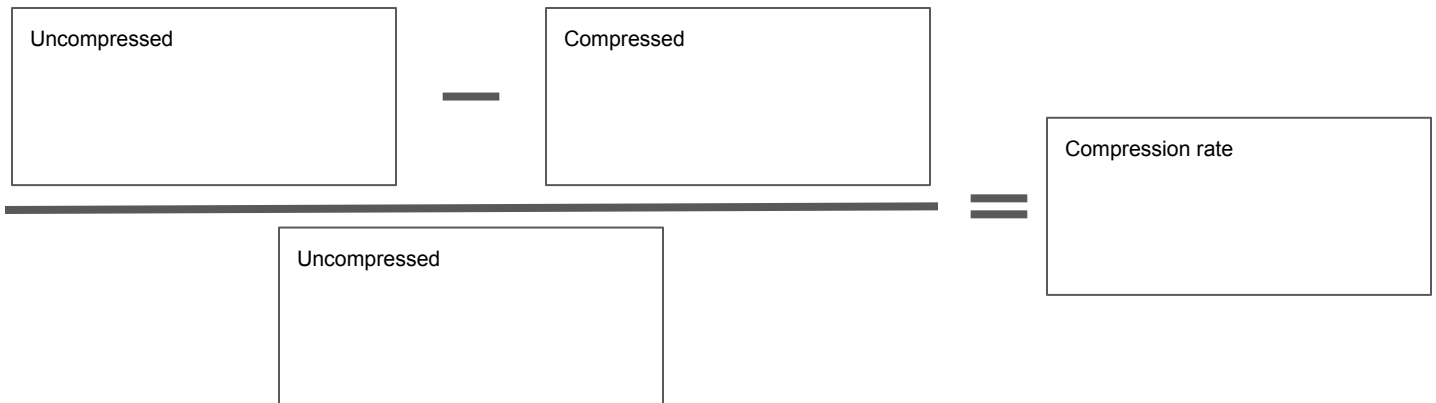
__ ___ ___ ___ __ ___ se books

___ ___ fish on a r___

What was the compression rate?

Uncompressed text size = count each letter, space or punctuation mark as 1

Compressed text size = count each letter, space, punctuation mark or empty block as 1

Uncompressed		Compressed

―

Compression rate

Uncompressed

=

Decompress this text just like before, and once you have, see if you can figure out who said this. The speaker is the answer to the exercise.

We ch|oo|se |to| go |__| the m|___|n.

|__| _____ __ __ __ |___| ____| in this

decade and do |___| other things,

not |because they are| easy,

but |_____ ___| ___| hard,

|_____ __|at goal |will| serve to

organize and measure the best of our

energies and skills,

|_____ _____| challenge is one |____|

|we are| |____|ing to accept,

one |__ ___| un|_____ __|postpone,

and one which we intend to win,

and |____ _____|s, too.

Decompress this text just like before, and once you have, see if you can figure out who said this. The speaker is the answer to the exercise.

… I still have a dream. It is _ _____ deeply rooted in the American _____.

I ____ _ _____ that one day this nation will rise up and live out the true meaning of its creed, 'We hold these truths to be self-evident, that all men are ___ated equal'.

__ ____ _ _____ ____ my four little children will ___ ___ live in a _____ where they ____ not be judged by the color of their skin but __ ____ content __ _____ character.

Decompress this text just like before, and once you have, see if you can figure out who said this. The speaker is the answer to the exercise.

A community is made up of individuals. Everyone has their part to play in building a c_____ _____. Virtually _____ at some point __ _____ lives will need to be cared for by that _____. The _____ is us. If it's denied the nourishment it _____s for survival it will fail to fl_____. A plant without water _____ die and so too _____ the spirit of our _____.

Now try your hand at compression. Find spots where 2 or more characters are repeated from a previous place in the text, circle it and point back to the previous location. See how much you can compress it!

Congratulations!
Today is your day.
You're off to Great Places!
You're off and away!

You have brains in your head.
You have feet in your shoes.
You can steer yourself
any direction you choose.
You're on your own. And you know what
you know.
And YOU are the guy who'll decide
where to go.

You'll look up and down streets. Look
'em over with care.
About some you will say, "I don't
choose to go there."
With your head full of brains and your
shoes full of feet,
you're too smart to go down any
not-so-good street.

Answers

Exercise 1

Mary had a little lamb
little lamb
little lamb
Mary had a little lamb
It's fleece was white as snow

Exercise 2

Look at me
Look at me
Look at me now
It is fun to have fun
But you have to know how
I can hold up the cup
And the milk and the cake
I can hold up these books
And the fish on a rake

Compression rate = (172 - 123) / 172 = 28.5%

Bonus Exercises

We are not providing the answers to the bonus problems at
this time.

For the last one, try your best to compress the text! One
little hint - you can even compress that first line by doing
the following:

Congratul□i□s!