LISA LAJEUNESSE

Dear Linear Algebra Student

This course is not a Calculus course
It is a sharp turn into
an abyss
as you fall you may see dimly
strange things
that glow
they will recur as you fall and fall
until your soul unfolds and faintly and wonderfully
remembers them from a past thought half formed
perhaps their shape was known to you
before entering this world
with time you will name them again
so they may be summoned
when precision of meaning is required

Did I mention this is not a Calculus course?
It is a trip deep into a realm
where definitions are enthroned
numerous and powerful, they encircle you and are the well of knowledge
woven by logic into a stunning lattice
with the inevitability of the laws of a universe
Do not cross them for they are
powerful despots, and punish those who ignore their least requirement
If you should stumble upon *linear independence*
document and catalogue its placement with photos and notes
as an archaeologist might
you are an excavator of meaning
Once complete
lift it lovingly and oh-so-carefully from its place of discovery
dust it gently, and examine from all angles and perspectives
do not tamper with a word or symbol
until you elicit its solemn message
and the geometry of space is
evermore connected by a direct line to the algebra of numbers

Do not think *row-reduction is to linear algebra*
as derivative is to calculus… for this

(forgive me if I mentioned already)
is not a Calculus course.
It's understandable that you arrive with the usual
grab bag of tricks,
primed to fill copious pages with scribbled and barely decipherable scripts
automatons of symbol manipulation
as you've been trained from the beginning
for the pinnacle of Calculus
You will be lulled by preliminary algorithms and procedures
you may become infected by the belief that all matrices are square
and a row of zeros signifies a free variable

Prepare for abstraction. In time, row reduction may lose all meaning. Soon you will be knee deep in nullspaces and eigenvalues and look back in wonder or perhaps only confusion *What just happened?* you will ask. *We are only poor engineering students.*

But why should I warn you?
I know you cling to the belief that this is just another Calculus course.

So we begin by defining our variables
Let x, y and z be the number of joys, tears and hearts beyond consoling respectively in the universe on a given day…