```
import scipy.constants as _sc
import numpy as np
# solar mass, radius, luminosity
Msun = 1.98848e30 \# kg
Rsun = 6.957e8 # m
Lsun = 3.828e26 # W
#print("The Mean Molecular Weight for\
# interstellar gas is {:.5}".format(mue gas))
if __name__ == "__main__"SNAKESHIT
                          A Short Musical
    constants = Book, Music, and Lyrics by D. Q. Pham
        ("solar mass", Msun, "kg"),
        ("solar radius", Rsun, "m"),
        ("solar luminosity", Lsun, "W"),
        ("gravitational constant", G, "m**3 s**-2 kg**-1"),
        ("Planck constant",h,"J s"),
        ("Planck constant, reduced", hbar, "J s"),
        ("electron mass", m e, "kg"),
        ("proton mass",m_p,"kg"),
        ("neutron mass", m n, "kg"),
        ("atomic mass unit", m u, "kg"),
        ("speed of light",c,"m s**-1"),
        ("Boltzmann constant",k,"J K**-1"),
        ("parsec",pc,"m"),
        ("astronomical unit", au, "m"),
        ("year", year, "s"),
 © D. Q. Pham "Stefan-Boltzmann constant", swww.badastral.com *-2 K**-4")
```

]

Cast of Characters

<u>UNUK</u>: Woman (preferably neither Asian/White), mezzo-soprano,

an astronomy student who neglects Python.

GUDJA: Woman, soprano, an astronomy professor who brings

Python into an everyday language.

MARFIK: Man, tenor, a student who gets Python.

ALYA: Woman, alto, a student who gets Python.

YED: Man, bass, a student who gets Python.

Place

Classroom

<u>Time</u>

1990s or 2000s

Musical Numbers

main(S) Unuk

repeat(STRANGLE) Company

print(SLITHER OFF) Unuk and Gudja

Setting: A classroom contains a desk.

At Rise: UNUK, carrying a stack of papers, enters.

(Song: "S")

UNUK (breathlessly.)

UNUK. PLEASE TAKE A BREATH, UNUK. SEMESTER'S DONE, UNUK. ASTRONOMY, UNUK. WEED-OUT COURSES OVER. DEEP RELEVANT HOMEWORK.

(Placing the stack on the desk.)

THE SCOPE OF THE TELE.
BUTTERFLIES IN BELLY. YOU ARE
STELLAR, UNUK.
CONSTELLATIONS APART. TIME
TO TACKLE THE DARK.
SUPERNOVAE TO START.
LAGRANGIAN'S BEEN HARD.

(MARFIK, ALYA, and YED stroll in.)

COMMUNITIES OF STARS. SIGN THAT ALL LEAVE A MARK.

(GUDJA, carrying a portable computer, marches in.)

A HOLY STAY, GUDJA.

(GUDJA examines the stack.)

THE BREAK'S BEGUN.

(GUDJA removes the stack. She places the computer on the desk.)

(They gather around the desk.)

(Song: "STRANGLE")

GUDJA

ALL I ASK OF YOUR MENTAL ENVI-MENT. SAVE IT. EXPORT THEM. YA'LL WERE TAUGHT THIS IN HIGH SCHOOL.

(UNUK alienates the computer.)

PRESENT, WELCOME BACK TO THE FUTURE!

(Activating the computer.)

(The computer throttles.)

(UNUK chokes up.)

TIME'S JUST A SCALAR QUANTITY THOUGH.

(Pointing to the computer.)

FILE... COMPUTE ORBITS AND ENERGIES FOR THE SMALLEST TIMESTEPS FOR EACH INTEGRATION. YED. ALYA. MARFIK. U. N N SERPENTIS HAS AN ELIPSICAL PERIOD. IT IS ONLY PYTHON.

(Moving aside.)

(MARFIK, ALYA, and YED take control of the computer.)

MARFIK	ALYA	YED
README M D.	RUN MATPLOTLIB.	OPEN NUMPY.
SOLAR	LIGHT SPEED	ATOMIC MASS
LUM-NOSITY.	INVERSE M S.	UNIT.

(UNUK discreetly takes a piece of paper from the hidden stack.)

ENERGY PLOT FUNCTIONS AND THE OUTPUT.

(UNUK writes on the paper.)

(MARFIK, ALYA, and YED turn their attention to UNUK.)

WHITE. COLD. DWARF.

(Taking the paper from UNUK.)

COLD WHITE DWARF STAR. CALC-LATE MASS RADIUS. FOR US.

(Setting UNUK up to the computer.)

MAKE YOURSELF TRY TO BE ON TOP. DON'T GET LEFT USEFUL. BEHIND.

(UNUK holds her head.)

YES PRESSURE. YES PRESSURE. YES PRESSURE.

(Pointing to the computer.)

(UNUK glances at the paper.)

(MARFIK, ALYA, and YED rip up the paper. They step aside. They occasionally scour through other papers in the hidden stack.)

UNUK (disorientedly.)

STRANGLEHOLD. I CANNOT SAY IT IN ASTRONOMY. DON'T KNOW COMPUTERS.

GUDJA

PYTHON IS ELEGANT SYNTAX, SCRIPTING.

UNUK

ITS TYPE'S TOO... DYNAMICALLY.

GUDJA

PERHAPS QUIT ANALYZING THIS TO HAVE DISCOV-RIES MADE ON THE WEB.

(Moving aside.)

UNUK

NOTHING GOOD COMES OUT OF RESEARCHING PYTHON ON THE WEB.

(Typing then entering on the computer.)

WELCOME TO THE JAVA...

(Scrolling with conviction.)

(MARFIK, ALYA, and YED slithers back. They move UNUK aside and retake control of the computer.)

MARFIK	ALYA	YED
TOO MUCH	TOO MUCH	DENS-TY
PRESSURE.	PRESSURE.	DEFINED.
'QUATION OF	'QUATION OF	'QUATION OF
STATE UNIT.	STATE TESTED.	STATE UNIT.
P-D RELATIONSHIP I	RRANCH UNCOMMIT	

(UNUK forces herself onto the computer. She hastily types.)

(MARFIK, ALYA, and YED force UNUK off the computer. They continue typing.)

STOP WITH	STOP THIS	STOP FEELING
ARTISTRY.	IMPRI-TY.	FREELY.
SEE, NOTHING TOO	SEE, DO NOT FEEL	SEE, JUST GIVE IT
COMPLEX.	SO STRESSED.	A REST.
PLUS, 3 D AIN'T	PLUS, 3 D ARE FOR	PLUS, 3 D LOADS
WORTH IT.	NERDS.	TOO SLOW.
PLUS,	PLUS,	PLUS,

(Directing towards each wall except the fourth wall.)

BOXED IN. BOXED IN. BOXED IN.

(Boxing in UNUK into the computer.)

UNUK (reluctantly.)

FOREST WITH ALL INTRICATE PARTS ARE MY MORAL CODE. NATURE SNAKING AROUND WILL NOT DO.

(UNUK types away.)

FLUSH. FOR CODES SO LUSH. BYTE STREAM TO PUBLIC SERVER.

(GUDJA takes control of the computer.)

GUDJA

PRIVATE. PRIVATE. PRIVATE.

(Returning the computer then scouring through papers in the hidden stack.)

MARFIK ALYA YED

STRANGLEHOLD. STRANGLEHOLD. STRANGLEHOLD.

(GUDJA returns the computer to UNUK.)

UNUK

JAVA. IT PROVIDES THE AIR TO BREATHE.

MARFIK ALYA YED

LANGUAGE NATIVE TO HER PEOPLE.

UNUK (sorely.)

YOU WANT ME TO INTEGRATE. SERVES YOU. LET ME JUST...

(Pressing CTRL and C.)

COPY.

(GUDJA, MARFIK, ALYA, and YED express shock.)

PASTE.

(Mashing CTRL and V.)

GUDJA

YOU HAVE JUST BROKEN THE CODE OF...

MARFIK ALYA YED

OFF... OF THE LAWS OF ENTROPY.

UNUK

THOUGH IT'S NOT BAROQUE, WELL FIX CENTRAL PRESSURE ARRAY FOR MASS-RADIUS TABLE IN A LIGHTWEIGHT CLASS.

GUDJA

CONDUCT. SEE ME AF...

MARFIK ALYA YED

THIS BOX HAS NO ROOM FOR A PARTICULAR MOLECULE.

UNUK

PLOT ROOM FOR JAVA... PROGRAMMERS.

MARFIK ALYA YED

VET-NAR-ANS. ENGINEERS. PERFORMERS.

(Pointing out.)

UNUK

I AM JUST AS MUCH OF AN ASTRONOMER AS YOU ARE WITH YOUR PRIVILEGED SELVES WITH OUR DEGREE.

MARFIK ALYA YED

UNUK. FAILURE. UNUK. CODE UNUK. CHEATER.

BREAKER.

UNUK

I AGREE TO OWN THIS FOR I HAVE ONLY CHEATED MYSELF. OH WELL.

(Looking to GUDJA for approval.)

THIS ASSIGNMENT, GIVE ME A ZERO.

MARFIK ALYA YED

NOT FOR US. NOT FOR US. NOT FOR US.

UNUK

PLEASE, YOU'RE AN INTEGRAL HERO.

GUDJA

'TERWARDS.

UNUK

SAKE OF GROUP, MY WILL SAYS I'LL JUST HAVE TO RETAKE WITH CLASS.

(GUDJA ponders at the hidden stack.)

COLLEGE WON'T JUST BE FOR THE RICH AS THIS STAR HOLDS THE MANTLE OF THE FIRST GENERATION.

(Feeling the weight of emotion.)

CHOKE.

(GUDJA dismisses MARFIK, ALYA, and YED.)

UNUK (Cont.)

I WILL NEVER DROP...

MARFIK ALYA YED

OUT. OUT. OUT.

(Exiting.)

(GUDJA deactivates the computer. She directs UNUK to her side. She grabs and sets down the stack.)

(Song: "SLITHER OFF")

GUDJA

YOU DON'T BELONG ON THIS COURSE. YOUR WORK'S ALWAYS BEEN TOO COMPLEX.

(Pointing out the stack.)

I KNEW WELL BEFORE I TOOK YOU IN. JAVA'S A REL-TIVELY NEW LANGUAGE.

(Handing the computer to UNUK.)

GET AHEAD WHILE YOU CAN. DON'T GET CUT OFF. THERE ARE TELESCOPES IN THE DISTANCE. 'STRON-MERS THAT CODE IN ALL TONGUE. EXECUTE THE SCRIPT.

(Waving UNUK off.)

(UNUK appears mystified.)

RUN THE PROGRAM NOW!

(Departing.)

(UNUK may hold the computer. She may run out in the open. She activates the computer. She knows there is a lot to unpack.)

UNUK

THE WHOLE PACKAGE FOR A UNIVERSE.

(Inhaling.)

AIR.

(Feeling lonely.)

'ROR PROP-GATION.

(Collecting herself.)

DATA. READING. WRITING. MANIPULATING.

(Feeling powerful.)

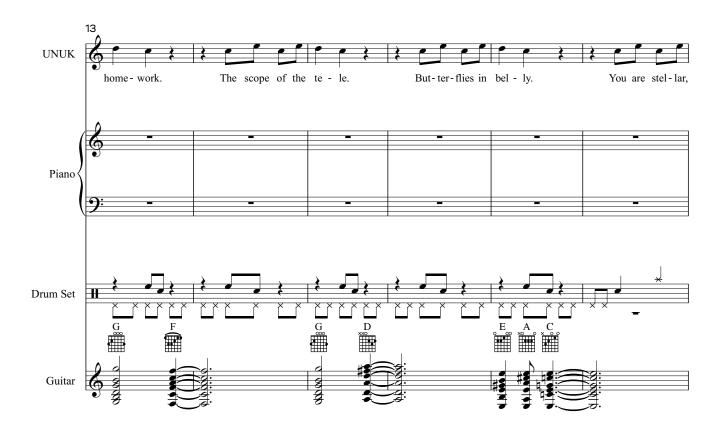
SYSTEM EXIT. ZERO.

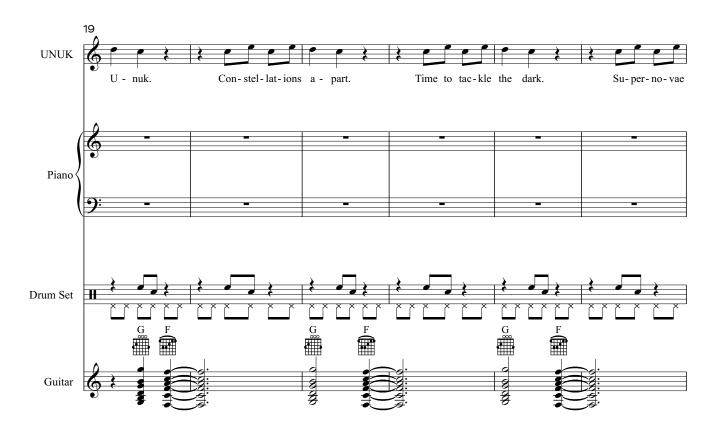
(Pressing.)

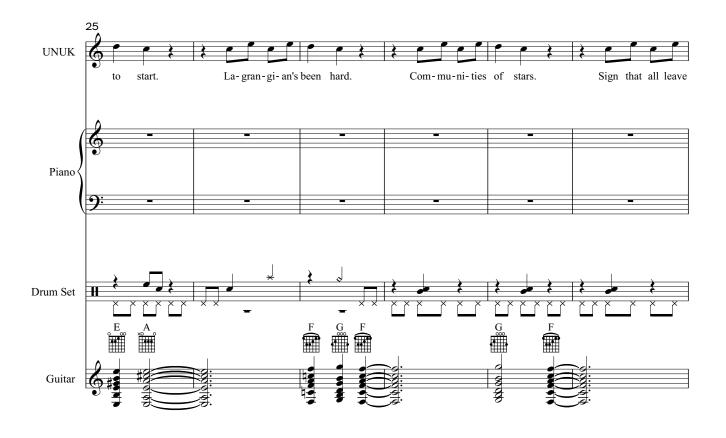
FADE OUT

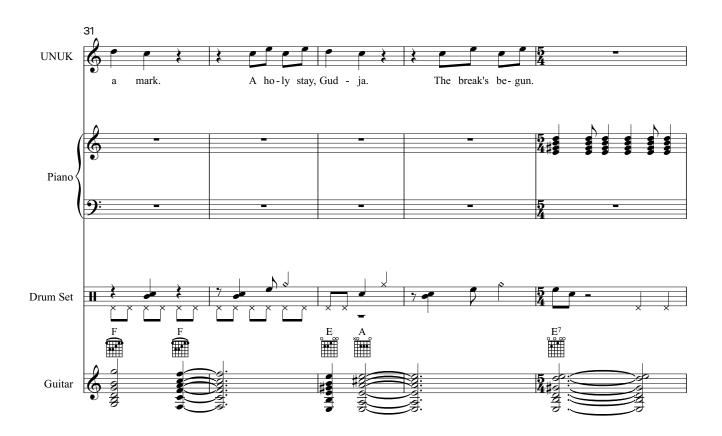
FIN

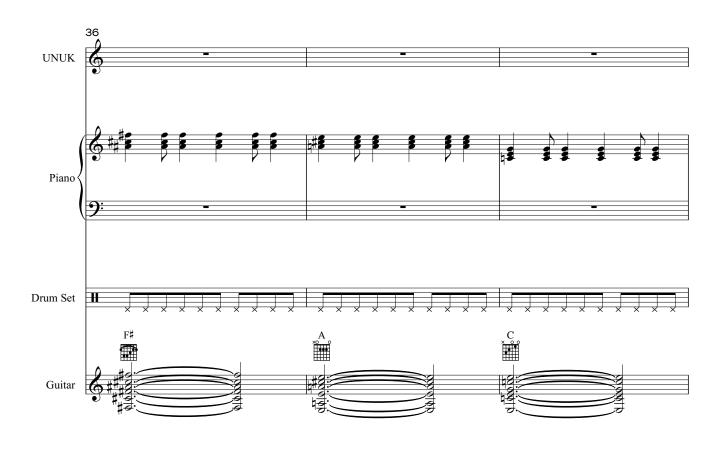


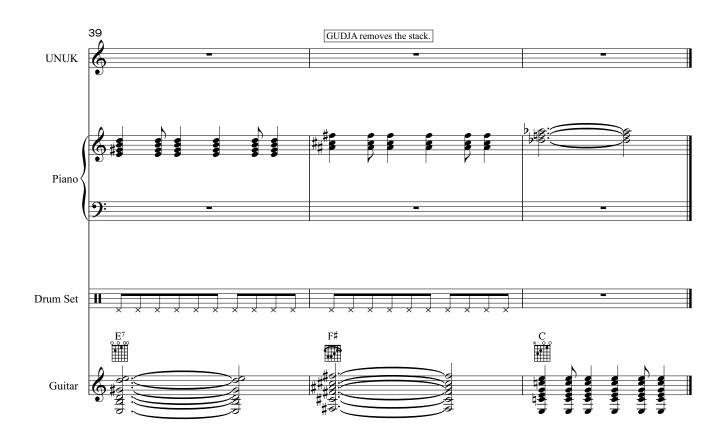












2STRANGLE

D. Q. PHAM







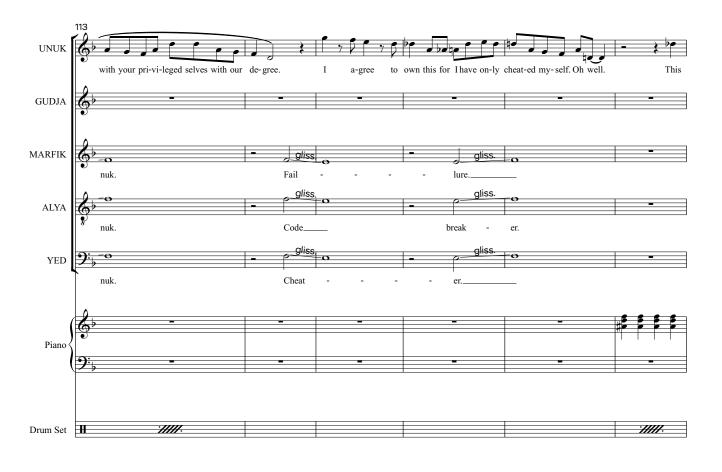
















SLITHER OFF

Snakeshit

D. Q. PHAM





