﻿# The script of the game goes in this file.

# Declare characters used by this game. The color argument colorizes the

# name of the character.

define a = Character("Celeste Aether")

# The game starts here.

label start:

# Show a background. This uses a placeholder by default, but you can

# add a file (named either "bg room.png" or "bg room.jpg") to the

# images directory to show it.

scene earth

# This shows a character sprite. A placeholder is used, but you can

# replace it by adding a file named "eileen happy.png" to the images

# directory.

# These display lines of dialogue.

play music "calm.mp3" fadeout 1

show astronaut\_happy:

xalign 0.0

yalign 1.0

a "{cps=25}Hi there! I'm Celeste Aether, your companion throughout this jouney."

a "{cps=25}When you think about space, what clicks on your mind first?"

show galaxies:

xalign 0.5

yalign 0.5

with Dissolve(.5)

pause .5

with Dissolve(.5)

a "{cps=25}Galaxies?"

hide galaxies

show planets:

xalign 0.5

yalign 0.5

with Dissolve(.5)

pause .5

with Dissolve(.5)

a "{cps=25}Planets?"

hide planets

show stars:

xalign 0.5

yalign 0.5

with Dissolve(.5)

pause .5

with Dissolve(.5)

a "{cps=25}Stars?"

hide stars

show comets:

xalign 0.5

yalign 0.5

with Dissolve(.5)

pause .5

with Dissolve(.5)

a "{cps=25}Comets?"

hide comets

show astronaut\_happy:

xalign 0.5

yalign 1.0

a "{cps=25}Astronauts like me?"

show astronaut\_happy:

xalign 0.0

yalign 1.0

a "{cps=25}Well, have you ever thought of how planets look like outside the Solar System?"

a "{cps=25}Then, let's talk about Exoplanets."

a "{cps=25}As mentioned before, Exoplanets are planets outside our solar system."

a "{cps=25}From the National Aeronautics Space Administration (NASA), out of 10,170 Exoplanets that have been discovered, only about 35 percent of them have been confirmed as Exoplanets."

a "{cps=25}Thanks to NASA, we have been able to determine how they are found and characterized. "

a "{cps=25}So, how Exoplanets are found?"

a "{cps=25}According to NASA official website,{a=https://science.nasa.gov/}science.nasa.gov{/a}, there are 2 main ways how Exoplanets are found."

a "{cps=25}One of the methods is called Radial Velocity."

$renpy.movie\_cutscene("Radial\_Velocity.ogv")

a "{cps=25}It seems complicated isn't it?"

a "{cps=25}Let me try to simplify it for you."

a "{cps=25}Firstly, imagine a star like a person standing still, but when a planet pulls on it, the star moves a little bit forward and then backward, just like a gentle tug-of-war."

a "{cps=25}We can't see the star move directly, but we can see how its light changes."

a "{cps=25}When the star moves closer, its light squishes together, and when it moves away, the light stretches out."

a "{cps=25}This wobble happens because the planet's gravity is pulling on the star as it orbits around."

a "{cps=25}That's how scientists know a planet is there!"

a "{cps=25}Another cool trick is called transit spectroscopy, and it helps us understand what other worlds are made of!"

$renpy.movie\_cutscene("Transit\_Spectroscopy.ogv")

a "{cps=25}To simplify it, when scientists want to learn about the air around faraway planets, they use light, just like how a prism splits white light into a rainbow."

a "{cps=25}Imagine shining a flashlight through a prism and seeing all those colors!"

a "{cps=25}When a star's light passes through a planet's atmosphere, it also splits into colors."

a "{cps=25}By looking at those colors, scientists can figure out what gas is in the planet's air, like how a barcode tells you what’s inside a package."

a "{cps=25}There are also other methods such as astrometry and direct imaging to find Exoplanets."

a "{cps=25}TIME TO RECAP!!!"

menu:

a "{cps=25}From the 10170 Exoplanet that has been discovered, how many percent have been confirmed as Exoplanet?"

"35":

a "{cps=25}Nice! You've got it!"

"75":

hide astronaut\_happy

show astronaut\_sad:

xalign 0.0

yalign 1.0

a "{cps=25}Hm, are you sure?"

"25":

hide astronaut\_happy

show astronaut\_sad:

xalign 0.0

yalign 1.0

a "{cps=25}Hm, are you sure?"

"50":

hide astronaut\_happy

show astronaut\_sad:

xalign 0.0

yalign 1.0

a "{cps=25}Hm, are you sure?"

menu:

a "{cps=25}What does NASA stands for?"

"National Aeronautics Space Administration":

hide astronaut\_sad

show astronaut\_happy:

xalign 0.0

yalign 1.0

a "{cps=25}Nice! You've got it!"

"Nation Aerospace Space Administration":

hide astronaut\_happy

show astronaut\_sad:

xalign 0.0

yalign 1.0

a "{cps=25}Hm, are you sure?"

"I don't know...":

show astronaut\_happy:

xalign 0.0

yalign 1.0

a "{cps=25}It's alright, let's move on!"

menu:

a "{cps=25}What are the main ways NASA use to find Exoplanets?"

"Transit Spectroscopy":

a "{cps=25}Nice! You've got it!"

"Direct Imaging":

hide astronaut\_happy

show astronaut\_sad:

xalign 0.0

yalign 1.0

a "{cps=25}Hm, are you sure?"

"Astrometry":

hide astronaut\_happy

show astronaut\_sad:

xalign 0.0

yalign 1.0

a "{cps=25}Hm, are you sure?"

hide astronaut\_sad

show astronaut\_happy:

xalign 0.0

yalign 1.0

a "{cps=25}Apart from that, let’s talk about their characteristics."

a "{cps=25}Exoplanets are fascinating celestial bodies that come in various sizes and types."

a "{cps=25}They can be rocky like Earth or gas giants like Jupiter, and their distance from stars affects their temperature and potential to support water."

a "{cps=25}Many have atmospheres made of different gas, which scientists study by analyzing light that passes through them."

a "{cps=25}The speed at which they rotate and orbit their stars influences their weather patterns, while the type of star they orbit plays a crucial role in their environment."

a "{cps=25}They can orbit their stars so tightly that a “year” lasts only a few days; they can orbit two suns at once."

a "{cps=25}They can be hot enough to boil metal or locked in deep freeze."

a "{cps=25}Some exoplanets are sunless rogues, wandering through the galaxy in permanent darkness."

a "{cps=25}Do you know that there are also some Exoplanets that have the potential to be habitable like Earth?"

a "{cps=25}Well, that’s the reason why NASA has launched their own programme to find these Exoplanets."

a "{cps=25}The program is called the Exoplanet Exploration Program."

a "{cps=25}Its main goal is to find planets that might be able to support life, especially those in the habitable zone, where conditions are just right for water to exist."

a "{cps=25}But what is habitable zone?"

show habitable\_exoplanets:

xalign 0.5

yalign 0.5

with Dissolve(.5)

a "{cps=25}A habitable zone is the distance from a star where it's not too hot or too cold for liquid water to exist on a planet’s surface."

a "{cps=25}These zones are also called Goldilocks zones because conditions are just right for life."

a "{cps=25}Earth-sized planets have been found in these zones, but most are near smaller, cooler stars called red dwarfs."

a "{cps=25}While planets close to these stars could be in the habitable zone, they may face extreme radiation, making it harder for life to survive."

with Dissolve(.5)

hide habitable\_exoplanets

a "{cps=25}The program also studies the atmospheres of these planets to see if they have elements like water or oxygen, which might mean the planet could support life."

show kepler\_telescope:

xalign 0.4

yalign 0.5

show tess\_telescope:

xalign 1.0

yalign 0.5

a "{cps=25}Using powerful space telescopes like Kepler and TESS, scientists look for signs of planets by watching for tiny changes in a star's brightness."

hide kepler\_telescope

hide tess\_telescope

a "{cps=25}One of the greatest in history was made when Kepler, a NASA’s spacecraft discovered more than 2600 Exoplanets."

a "{cps=25}The Kepler mission is searching for Earth-like planets by monitoring star brightness for transiting planets."

a "{cps=25}Future NASA missions and advanced ground-based observatories will improve this search, extending the discovery of smaller and more distant exoplanets."

a "{cps=25}These efforts aim to deepen our understanding of planetary systems and potentially find habitable worlds beyond our solar system."

a "{cps=25}Kepler’s contribution helped NASA study about Exoplanets and understand them in much more detail."

a "{cps=25}There are some examples of potentially habitable exoplanets."

show proxima:

xalign 0.5

yalign 0.5

a "{cps=25}There's also a rocky planet that orbits the closest star to the Sun, Proxima Centauri, about 4.2 light-years away, which is called {a=https://science.nasa.gov/exoplanet-catalog/proxima-centauri-b/}Proxima Centauri b{/a}."

a "{cps=25}It's about 1.07 times Earth's mass and orbits its star very quickly—once every 11.2 days!"

a "{cps=25}It’s in the habitable zone, meaning there might be liquid water on its surface."

a "{cps=25}But, it’s very close to its star, which gives it a lot of harmful radiation, so it might not be safe for life."

hide proxima

show kepler452:

xalign 0.5

yalign 0.5

a "{cps=25}Another one is {a=https://science.nasa.gov/exoplanet-catalog/kepler-452-b/}Kepler-452b{/a}."

a "{cps=25}It's a planet that orbits a star similar to our Sun, located 1,400 light-years away."

a "{cps=25}It’s called Earth’s cousin because it’s close in size and might have liquid water."

a "{cps=25}Kepler-452b is about 60 percent bigger than Earth, putting it in the super-Earth category."

hide kepler452

show trappist:

xalign 0.5

yalign 0.5

a "{cps=25}There's also {a=https://science.nasa.gov/exoplanet-catalog/trappist-1-e/}TRAPPIST-1e.{/a}"

a "{cps=25}A rocky planet about the same size as Earth, located 40 light-years away."

a "{cps=25}It's in the habitable zone of its star, meaning it might have liquid water and possibly a thick atmosphere that could support life."

hide trappist

a "{cps=25}And many more! Quite fascinating, if you ask me."

a "{cps=25}TIME TO RECAP!!!"

menu:

a "{cps=25}What are the examples of telescopes I've mentioned earlier?"

"Kepler":

a "{cps=25}Nice! You've got it!"

"radio telescope":

hide astronaut\_happy

show astronaut\_sad:

xalign 0.0

yalign 1.0

a "{cps=25}Hm, are you sure?"

"refracting telescope":

hide astronaut\_happy

show astronaut\_sad:

xalign 0.0

yalign 1.0

a "{cps=25}Hm, are you sure?"

hide astronaut\_sad

show astronaut\_happy:

xalign 0.0

yalign 1.0

menu:

a "{cps=25}What are the goals NASA's Exoplanet Exploration Program?"

"search for habitable planets and life beyond our solar system":

a "{cps=25}Nice! You've got it!"

"ALIENS!!":

a "{cps=25}Hm, are you sure?"

a "{cps=25}Alright! That's all for now! Thank you for coming with me on this journey to learn about Exoplanets."

menu:

a "{cps=25}How would rate our journey?"

"1":

a "{cps=25}At least it has been an experience, right?"

"2":

a "{cps=25}At least it has been an experience, right?"

"3":

a "{cps=25}We sure did have fun throughout this journey, right?"

"4":

a "{cps=25}I'm glad that this journey has been an amazing one for you!"

"5":

a "{cps=25}I'm glad that this journey has been an amazing one for you!"

a "{cps=25}Well, it's now for us to say goodbye."

a "{cps=25}Goodbye and thank you!"

# This ends the game.

return