

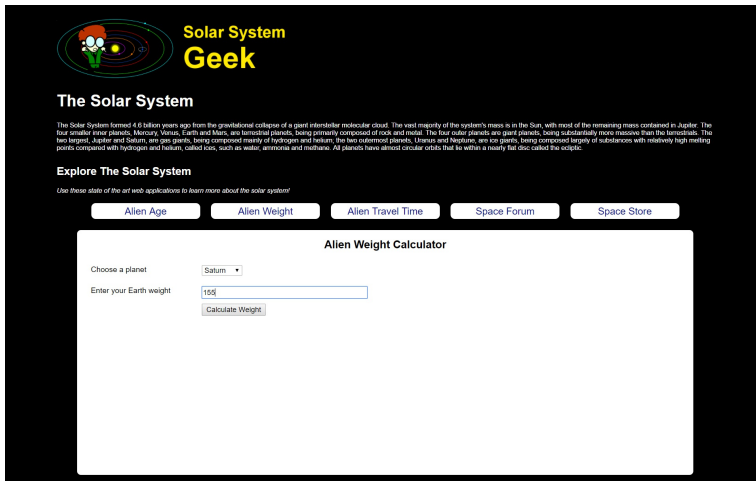
Day 1 - HTTP GET

On the Solar System Geek home page there are links for three different calculation tools to "Explore the Solar System". Implement these calculators as specified below and modify the home page links to point to your implementations.

Alien Weight Calculator

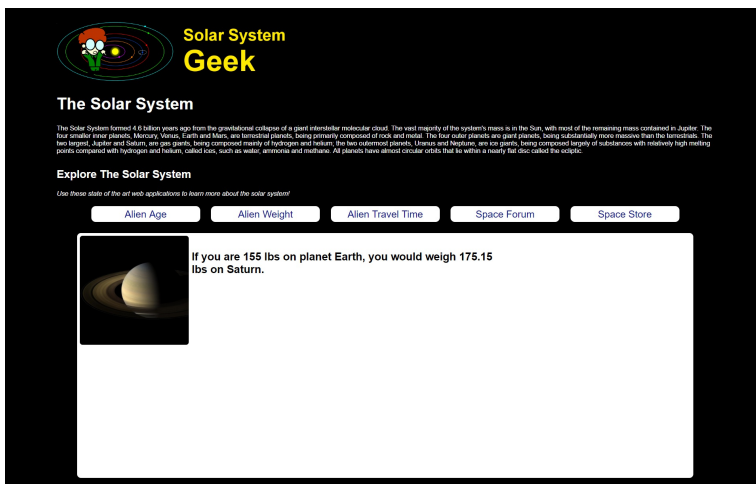
Given a weight on earth, this calculator should compute the equivalent weight on another planet in the solar system. Use the [gravity of the alien planet](#) compared to earth gravity to calculate the alien weight.

Input



The screenshot shows the "Solar System Geek" website. The main heading is "The Solar System". Below it is a paragraph of text about the formation of the solar system. Underneath is a section titled "Explore The Solar System" with a link to "Use these state of the art web applications to learn more about the solar system!". There are five buttons: "Alien Age", "Alien Weight", "Alien Travel Time", "Space Forum", and "Space Store". The "Alien Weight" button is highlighted. Below the buttons is a form titled "Alien Weight Calculator". The form has a dropdown menu for "Choose a planet" with "Saturn" selected. There is a text input field for "Enter your Earth weight" with the value "155". Below the input field is a "Calculate Weight" button.

Output




The screenshot shows the same "Solar System Geek" website, but the "Alien Weight" button is now highlighted. Below the buttons is a form titled "Alien Weight Calculator". The form has a dropdown menu for "Choose a planet" with "Saturn" selected. There is a text input field for "Enter your Earth weight" with the value "155". Below the input field is a "Calculate Weight" button. The output of the calculation is displayed in a box: "If you are 155 lbs on planet Earth, you would weigh 175.15 lbs on Saturn." There is also a small image of Saturn.

Alien Age Calculator

Given an age in Earth years, this calculator should compute the equivalent age in [years for another planet in the solar system](#).

Input



Solar System
Geek

The Solar System

The Solar System formed 4.6 billion years ago from the gravitational collapse of a giant interstellar molecular cloud. The vast majority of the system's mass is in the Sun, with most of the remaining mass contained in Jupiter. The four smaller inner planets, Mercury, Venus, Earth and Mars, are terrestrial planets, being primarily composed of rock and metal. The four outer planets are giant planets, being substantially more massive than the terrestrials. The two largest, Jupiter and Saturn, are gas giants, being composed mainly of hydrogen and helium; the two outermost planets, Uranus and Neptune, are ice giants, being composed largely of substances with relatively high melting points compared with hydrogen and helium, called ices, such as water, ammonia and methane. All planets have almost circular orbits that lie within a nearly flat disc called the ecliptic.

Explore The Solar System

Use these tabs of the app web applications to learn more about the solar system!

Alien Age

Alien Weight

Alien Travel Time

Space Forum

Space Store

Alien Age Calculator

Choose a planet


Jupiter

Enter your Earth age

36

Calculate Age

Output



Solar System
Geek

The Solar System

The Solar System formed 4.6 billion years ago from the gravitational collapse of a giant interstellar molecular cloud. The vast majority of the system's mass is in the Sun, with most of the remaining mass contained in Jupiter. The four smaller inner planets, Mercury, Venus, Earth and Mars, are terrestrial planets, being primarily composed of rock and metal. The four outer planets are giant planets, being substantially more massive than the terrestrials. The two largest, Jupiter and Saturn, are gas giants, being composed mainly of hydrogen and helium; the two outermost planets, Uranus and Neptune, are ice giants, being composed largely of substances with relatively high melting points compared with hydrogen and helium, called ices, such as water, ammonia and methane. All planets have almost circular orbits that lie within a nearly flat disc called the ecliptic.

Explore The Solar System

Use these tabs of the app web applications to learn more about the solar system!


Alien Age

Alien Weight

Alien Travel Time

Space Forum

Space Store



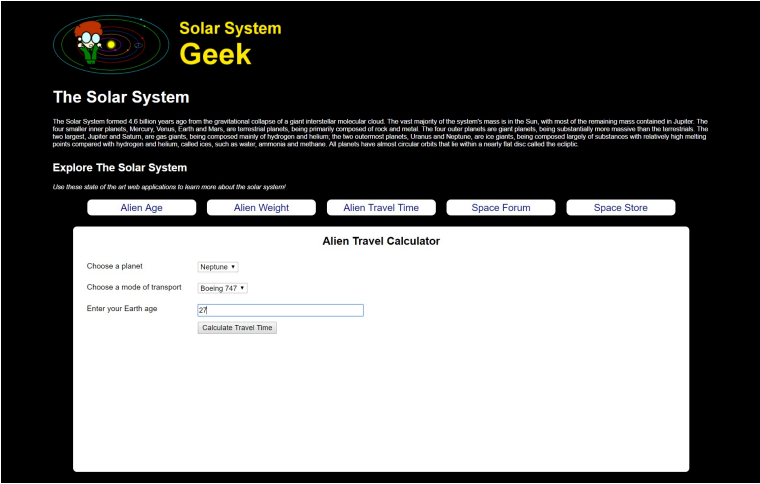
If you are 36 years old on planet Earth, then you are 3.03 Jupiter years old.

Alien Travel Calculator

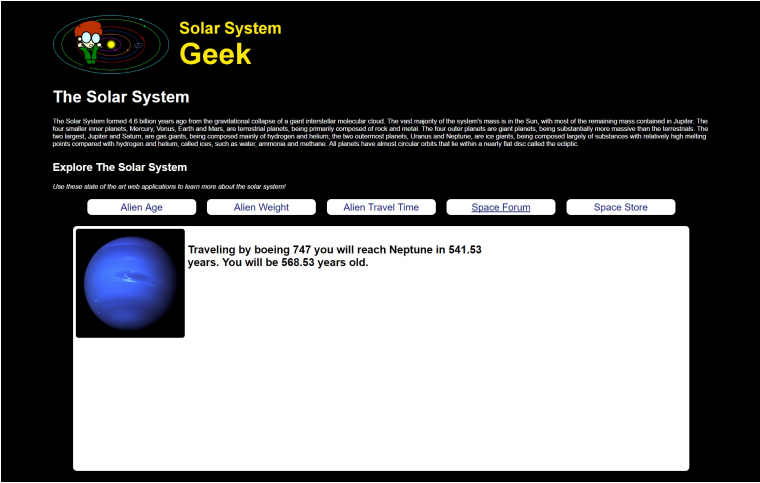
Given a destination planet, mode of transportation, and age of the traveler at the start of the journey, this calculator should compute the total travel time and age of the traveler upon arrival. The calculation should be based on the [average distance between planets in the solar system](#) and the following table of modes of transportation and their speeds:

Mode of Transport	Speed
Walking	3mph
Car	100mph
Bullet Train	200mph
Boeing 747	570mph
Concorde	1350mph

Input



Output



Day 2 - HTTP POST

You are developing an online bulletin board web component for SSGeek. It is a general forum posting, so anyone is welcome to join and post without needing to login.

The feature has two requirements:

1. Provide a page that allows a site user to submit a new post to the bulletin board
2. Provide a page to view all posts on the bulletin board

A database script([scripts/ssgeek.sql](#)), an interface ([IForumPostDAL](#)), and a data access class (for you to implement) has been provided.

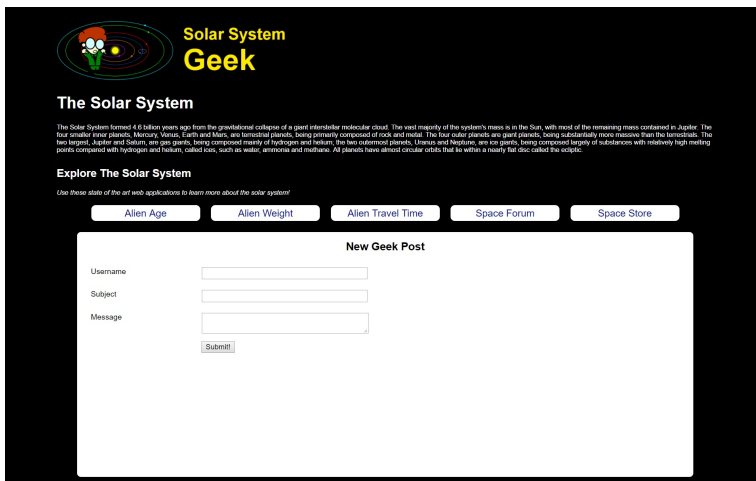
Your implementation must apply dependency injection and should be unit tested.

Submitting a New Post

Users can navigate to a page on the web application that provides them with a form to submit a new post for a bulletin board.

The page will provide the user with the form to submit:

- Username
- Subject
- Message

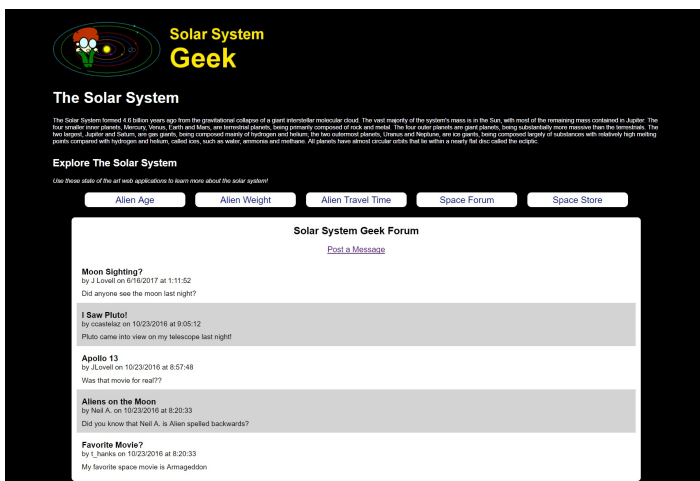


The screenshot shows the 'Solar System Geek' website. At the top, there's a logo with a cartoon alien and the text 'Solar System Geek'. Below the logo, there's a section titled 'The Solar System' with a paragraph of text about the solar system's formation. Underneath, there's a link 'Explore The Solar System' and a row of buttons: 'Alien Age', 'Alien Weight', 'Alien Travel Time', 'Space Forum', and 'Space Store'. The main content area is titled 'New Geek Post' and contains a form with three input fields: 'Username', 'Subject', and 'Message'. Below the 'Message' field is a 'Submit!' button.

Viewing a Post

The View Posts page allows users the ability to see any posts that were previously submitted to the web application.

The page should display to the user all of the prior posts. You can use any type of layout that you prefer.



The screenshot shows the 'Solar System Geek' website with the 'Solar System Geek Forum' page. The header is the same as the previous screenshot. The main content area is titled 'Solar System Geek Forum' and has a link 'Post a Message'. Below the title, there are four posts displayed in a list. Each post has a title, a byline, a timestamp, and the post content. The posts are: 'Moon Sighting?' by J Lovell on 6/16/2017 at 1:11:52, 'I Saw Pluto!' by ccsahelz on 10/23/2016 at 9:05:12, 'Apollo 13' by J Lovell on 10/23/2016 at 8:57:48, and 'Aliens on the Moon' by Neil A. on 10/23/2016 at 8:20:33. The last post is partially cut off.

Day 3 - SESSION

You'll be creating a shopping cart that allows your website visitor the ability to view products, select a product, and add it to the their shopping cart.

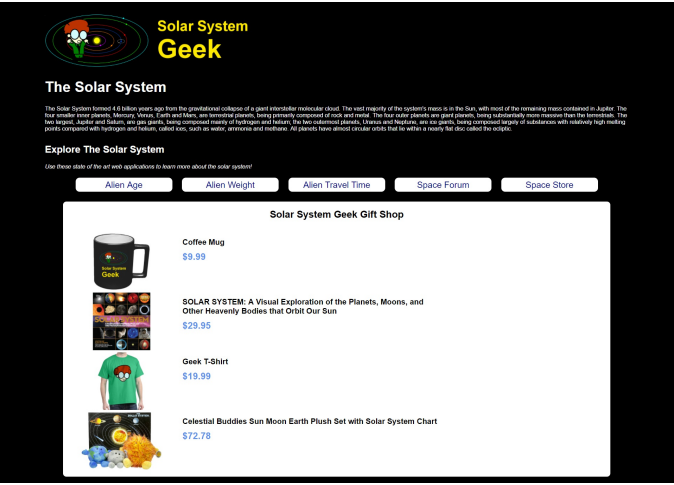
You should unit test when possible

Product List Page

The product listing page displays all of the inventory that the SSGeek shop contains (product data is available in [scripts/ssgeek-shopping-cart.sql](#)).

Requirements

- When the user clicks on the image of a product they are navigated to the **Product Detail** page
- Use the URL pattern [/ShoppingCart/Index](#)

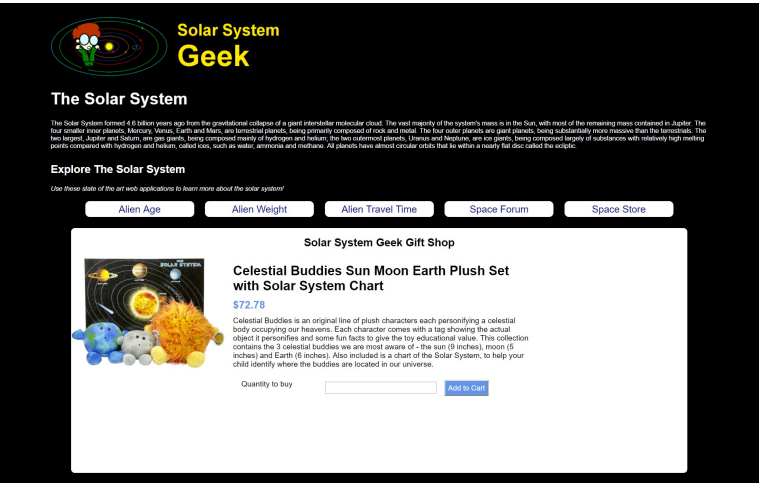


Product Detail Page

The product detail page displays the data for a specific product and allows users to add products to their shopping cart.

Requirements

- When the user enters a quantity into the textbox and *presses Enter* or *presses Add to Cart* the product is added to their shopping cart
- After the user adds an item to their shopping cart, they are redirected to the View Cart page
- Use the URL pattern [/ShoppingCart/Detail/{product-id}](#)

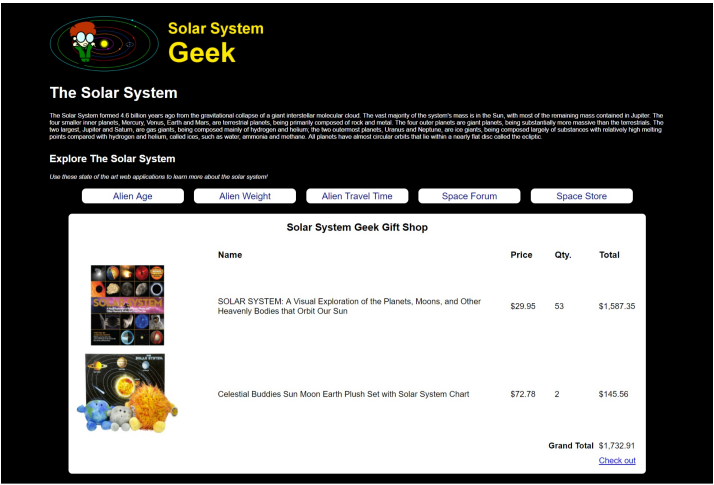


View Shopping Cart

The View Shopping Cart page displays all of the items that are in the visitor's shopping cart to purchase.

Requirements

- Use the URL pattern `/ShoppingCart/ViewCart`



Day 5 - TEMPORARY REDIRECT DATA

You'll be working on the Forum Post page that you created on DAY 2 to display a confirmation message when the user posts a new forum message.

Requirements

- When the user visits the `Forum/` page, display a list of the existing forum posts.
- Immediately after the user submits a new Forum post from the `Forum/New` page, display the list of existing forum posts with a success message at the top.

