

# 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 homepage with a navigation bar at the top. Below the navigation bar, there is a section titled "The Solar System" with a brief description of the solar system's formation and composition. A "Alien Weight" button is highlighted in the navigation bar. The main content area contains a form titled "Alien Weight Calculator" with fields for "Choose a planet" (set to Saturn) and "Enter your Earth weight" (set to 105), along with a "Calculate Weight" button.

### Output

The screenshot shows the Solar System Geek homepage with the same layout as the input. The "Alien Weight" button is still highlighted. The main content area now displays a message: "If you are 155 lbs on planet Earth, you would weigh 175.15 lbs on Saturn." There is also a small image of the planet 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

The screenshot shows the 'Alien Age Calculator' page on the 'Solar System Geek' website. At the top, there's a small graphic of the solar system and the title 'Solar System Geek'. Below it is a section titled 'The Solar System' with a detailed paragraph about its formation and composition. A navigation bar at the bottom includes links for 'Alien Age', 'Alien Weight', 'Alien Travel Time', 'Space Forum', and 'Space Store'. The main area is titled 'Alien Age Calculator' and contains two dropdown menus: 'Choose a planet' set to 'Jupiter' and 'Enter your Earth age' set to '36'. A 'Calculate Age' button is at the bottom.

## Output

The screenshot shows the 'Alien Age Calculator' page after calculating. It features the same header and navigation bar as the input page. The main content area now displays a message: 'If you are 36 years old on planet Earth, then you are 3.03 Jupiter years old.' Below this message is a small image of the planet Jupiter.

# 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

The screenshot shows the "Alien Travel Calculator" section of the "Solar System Geek" website. The page has a dark background with a small logo in the top left corner. At the top, there is a heading "The Solar System" followed by a detailed paragraph about the formation of the solar system. Below this is a navigation bar with links: "Explore The Solar System", "Alien Age", "Alien Weight", "Alien Travel Time", "Space Forum", and "Space Store". The main form area is titled "Alien Travel Calculator" and contains three dropdown menus: "Choose a planet" set to "Neptune", "Choose a mode of transport" set to "Boeing 747", and "Enter your Earth age" set to "27". There is also a "Calculate Travel Time" button.

## Output

The screenshot shows the "Alien Travel Calculator" section of the "Solar System Geek" website after the calculation has been performed. The page layout is identical to the input screen, with the "Solar System Geek" logo, the "The Solar System" introduction, the navigation bar, and the "Alien Travel Calculator" form. In the "Alien Travel Time" field, the result "Traveling by boeing 747 you will reach Neptune in 541.53 years. You will be 568.53 years old." is displayed. Below the form, there is a small image of the planet Neptune.

# 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.

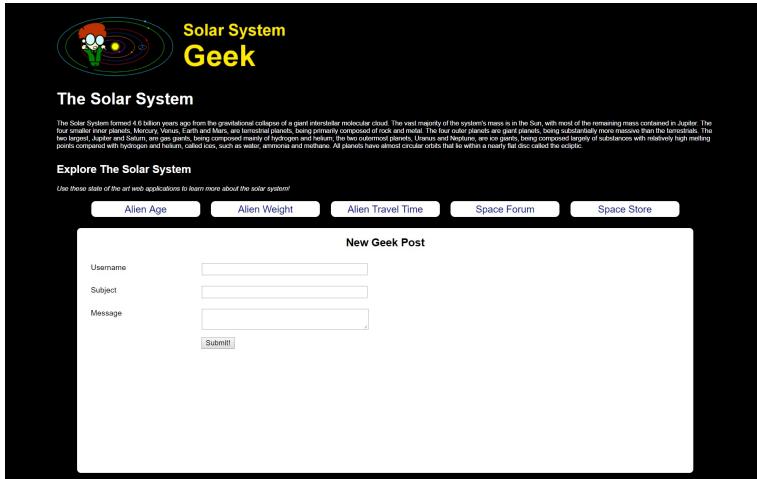
**Your implementation must apply dependency injection and should be unit tested.**

## 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:

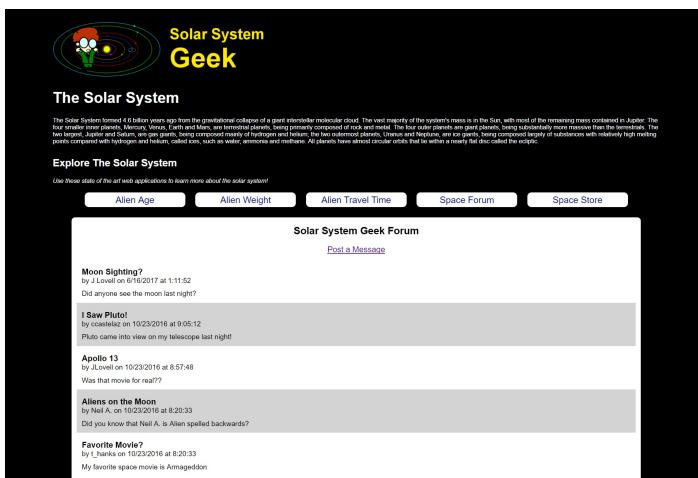
- Username
- Subject
- Message



## 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.



## BONUS

Create a form that allows website visitors to sign up to win a prize.

Each visitor needs to provide their name, and answer a space trivia question.

Leverage HTTP POST and the Post-Redirect-Get pattern to

1. Show the user the form
2. Have the user post their answer
3. Redirect the user to the correct action based on the input

The screenshot shows a dark-themed website for "Solar System Geek". At the top, there's a logo of a stylized planet with rings and a small figure, followed by the text "Solar System Geek". Below the header, a section titled "The Solar System" contains a brief description of the solar system's formation and structure. A navigation bar below it includes links for "Alien Age", "Alien Weight", "Alien Travel Time", "Space Forum", and "Space Store". The main content area is titled "Space Geek Trivia" and contains a form with a text input field labeled "Enter your name:" and a radio button group for a question about who first walked on the moon (with options for Tom Hanks, Jim Lovell, and Neil Armstrong). A "Submit" button is at the bottom of the form.

Based on the user's answer, they will see a Correct or Incorrect page letting them know the outcome.

This screenshot shows the "Correct!" page from the "Space Geek Trivia" section. It features the same header and navigation as the previous page. The main content area displays a message: "That's right! Josh Tucholski! Neil Armstrong first stepped on the moon on July 20, 1969. You know your space history!"

This screenshot shows the "Incorrect!" page from the "Space Geek Trivia" section. The message displayed is: "That's incorrect! Don't you know your space trivia? You should spend more time studying instead of watching fake space movies! Josh Tucholski!"

# 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.

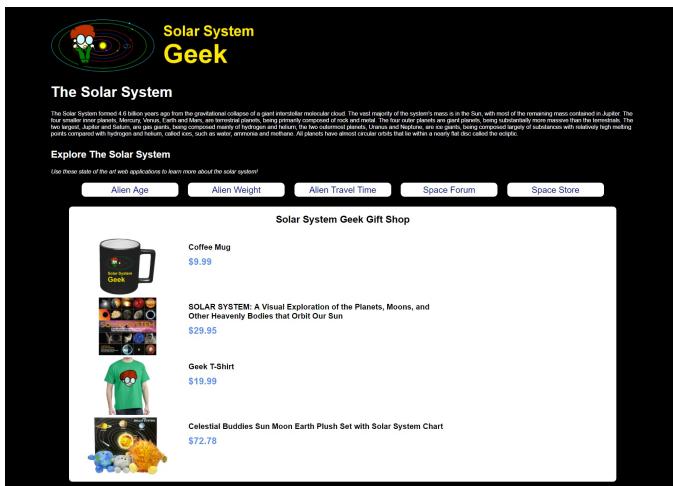
## You should unit test when possible

### Product List Page

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

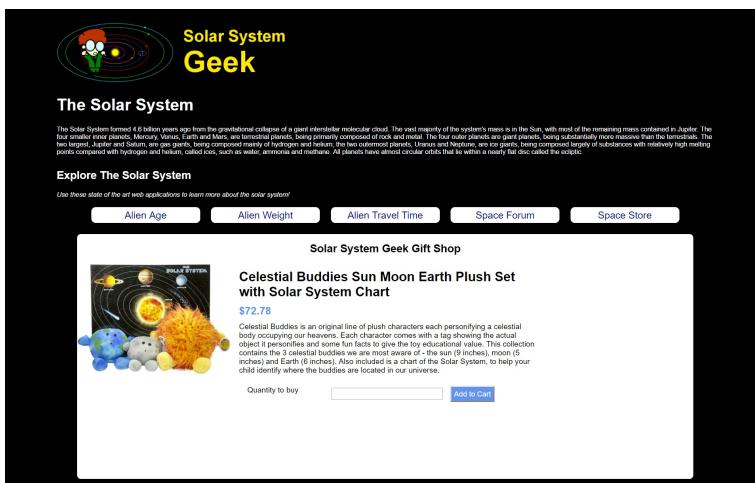


### Product Detail Page

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](#)

The screenshot shows a shopping cart page titled "Solar System Geek Gift Shop". The cart contains two items:

Name	Price	Qty.	Total
SOLAR SYSTEM: A Visual Exploration of the Planets, Moons, and Other Heavenly Bodies that Orbit Our Sun	\$29.95	53	\$1,587.35
Celestial Buddies Sun Moon Earth Plush Set with Solar System Chart	\$72.78	2	\$145.56
<b>Grand Total</b>	<b>\$1,732.91</b>		

[Check out](#)

## 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.

The screenshot shows a forum page titled "Solar System Geek Forum". At the top, there is a green success message bar: "Your message has been saved!". Below it, there is a "Post a Message" button. The main content area displays several forum posts:

- Meteor?**  
by spiceman\_josh on 6/16/2017 at 2:53:33  
Did anyone see the meteor flying through the sky last night?
- Moon Sighting?**  
by J\_Louie on 6/16/2017 at 1:11:52  
Did anyone see the moon last night?
- I Saw Pluto!**  
by danny on 10/23/2016 at 9:05:12  
Pluto came into view in my telescope last night!
- Apollo 13**  
by CLower on 10/23/2016 at 8:57:48  
Was that movie for real??
- Aliens on the Moon**  
by Neil\_A on 10/23/2016 at 8:20:33  
Did you know that Neil\_A is Alien spelled backwards?
- Favorite Movie?**  
by t\_hanks on 10/23/2016 at 8:20:33  
My favorite movie is Armageddon