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## Assignment 2

**9%, due before 11:00 p.m. on February 28, 2024**

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### Submission Policy

- Late submission is **not allowed**.
- Both Part 1 (submission) and Part 2 (deployment to server) must be completed before the due date and time.
- The timestamp of the `.deployed` file on your EC2 server must be before the due date and time.
- Multiple submissions are allowed *before the deadline*, the latest submission replacing the previous one.

### Time Management

“Time management is the process of organizing and planning how to divide your time between different activities. Get it right, and you'll end up working smarter, not harder, to get more done in less time – even when time is tight and pressures are high. The highest achievers manage their time exceptionally well.” [MindTools.com]

# February

2024

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29		

Assignment 2 app can be developed within about 6 hours depending on how well you learned from the tutorials. You have 14 days to complete this assignment. You need to allocate about 6 hours during the 14-day period by managing your time effectively.

Don't be a victim of [Parkinson's Law!](#)

Start working on developing the app immediately and aim to finish it much before the deadline. You may encounter software errors that may take too much time to resolve resulting in missing the deadline and getting zero.

## How to Submit

1. Name your cloud software application as **Dogs-YourLastname** in IntelliJ, with first letter of your last name capitalized.
2. Document all XHTML and Java code to demonstrate your knowledge similar to the tutorials.
3. Right click your IntelliJ project folder and select **Compress** to create a zip file.
4. Rename the zip file created as **Yourlastname-Asg2.zip** with first letter of your last name capitalized.
  - **● If your filename is not formatted correctly as required, you will be penalized 10%.**
  - Example filenames that will be penalized 10%: Smith - Asg2, Smith\_Asg2, smith-Asg2, Smith-asg2, Dogs-Smith, Smith-Dogs
  - Use **LastnameFirstname-Asg2.zip** **IF** any other student has the same last name with first letters capitalized. Check the attendance sheet to find out if any other student has the same last name.
5. **Deploy your Asg 2 app to run on your Amazon EC2 Virtual Private Server and test its full functionality.**
6. Upload your zip file to your account in **OneDrive**, right click the uploaded file, select **Share** from the pop-up menu, enter **balci@vt.edu**, and add a note containing:
  - **CS3754 Asg 2 Submission – your full name**
  - **URL of your Asg 2 app running on your Amazon EC2 Virtual Private Server**
  - **I satisfy all of the requirements in the Submission Checklist.**

● Virginia Tech Honor Code Violation if your statement is false!
7. Click **Send** before the deadline.

## Virginia Tech Honor Code

- Virginia Tech Honor Code is in Effect.
- You are allowed to give or receive help in learning IntelliJ IDEA Ultimate, WildFly, MySQL, Java, CSS, XHTML, JSF, EL, CDI, and Jakarta EE APIs.
- You are permitted to reuse code from the course tutorial apps and course code snippets.
- The “Created by” part of the top documentation of every file in your project must include:
  - Your full name if you created the entire file yourself,
  - Dr. Balci's name if the code is reused from the course tutorial apps or course code snippets,

- Dr. Balci's name and your name if you modified the code from the course tutorial apps or course code snippets, or
- Reference to the source (developer) of any other code you are reusing.

### Statement of Compliance with the Stated Honor Code

The following must be copied and pasted **right after** the **xml** statement on top in the `index.xhtml` file. By writing your full name, you declare that the *Statement of Compliance with the Stated Honor Code* is true. Falsifying this declaration is a serious Honor Code violation.

<!--

```
*****  
* Statement of Compliance with the Stated Honor Code *  
*****
```

I hereby declare on my honor and I affirm that

- (1) I have not given or received any unauthorized help on this ass
- (2) All work is my own in this assignment.

I am hereby writing my name as my signature to declare that the abo

MyFirstName MyMiddleName MyLastName

```
*****
```

-->

 Your submission will be rejected and you will receive zero on the assignment if you fail to include the above.

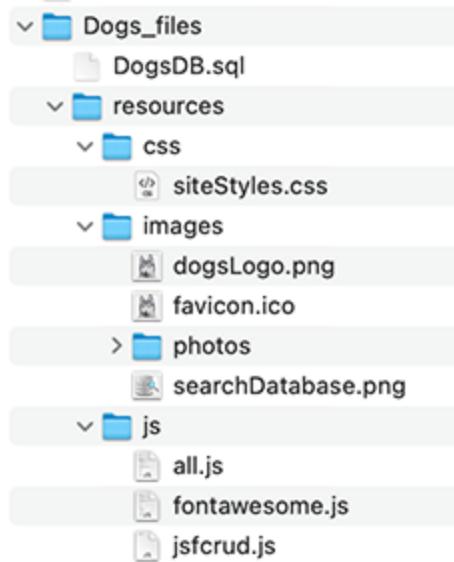
### Submission Checklist

Done	Submission Requirement	Penalty if the requirement is not satisfied
<input type="checkbox"/>	The Statement of Compliance with the Stated Honor Code is included.	Your submission is rejected and your grade is zero
<input type="checkbox"/>	The Statement of Compliance with the Stated Honor Code is signed with your signature as your full name.	Your submission is rejected and your grade is zero
<input type="checkbox"/>	Your assignment app is running on your Amazon EC2 Virtual Private Server <small>(Submitting incorrect or nonworking EC2 URL or localhost URL will result in a grade of zero!)</small>	Your app cannot be evaluated and your grade is zero
<input type="checkbox"/>	Your submission filename is formatted exactly per the given specification.	10% of the grade lost
<input type="checkbox"/>	The “Created by” part of the top documentation of every file in your project	Honor Code Violation

	must include what is specified under the <i>Virginia Tech Honor Code</i> above.	
<input type="checkbox"/>	Your submitted IntelliJ project must produce the deployed app. Deploying someone else's app under your name is a serious honor code violation.	F* course grade

## Download

- Download the Assignment 2 files, [Dogs\\_files.zip](#), shown below.



## Grading Sheet

See the [Grading Sheet](#).

## Development Notes

See the [Development Notes](#).

## Application Functionality Specification

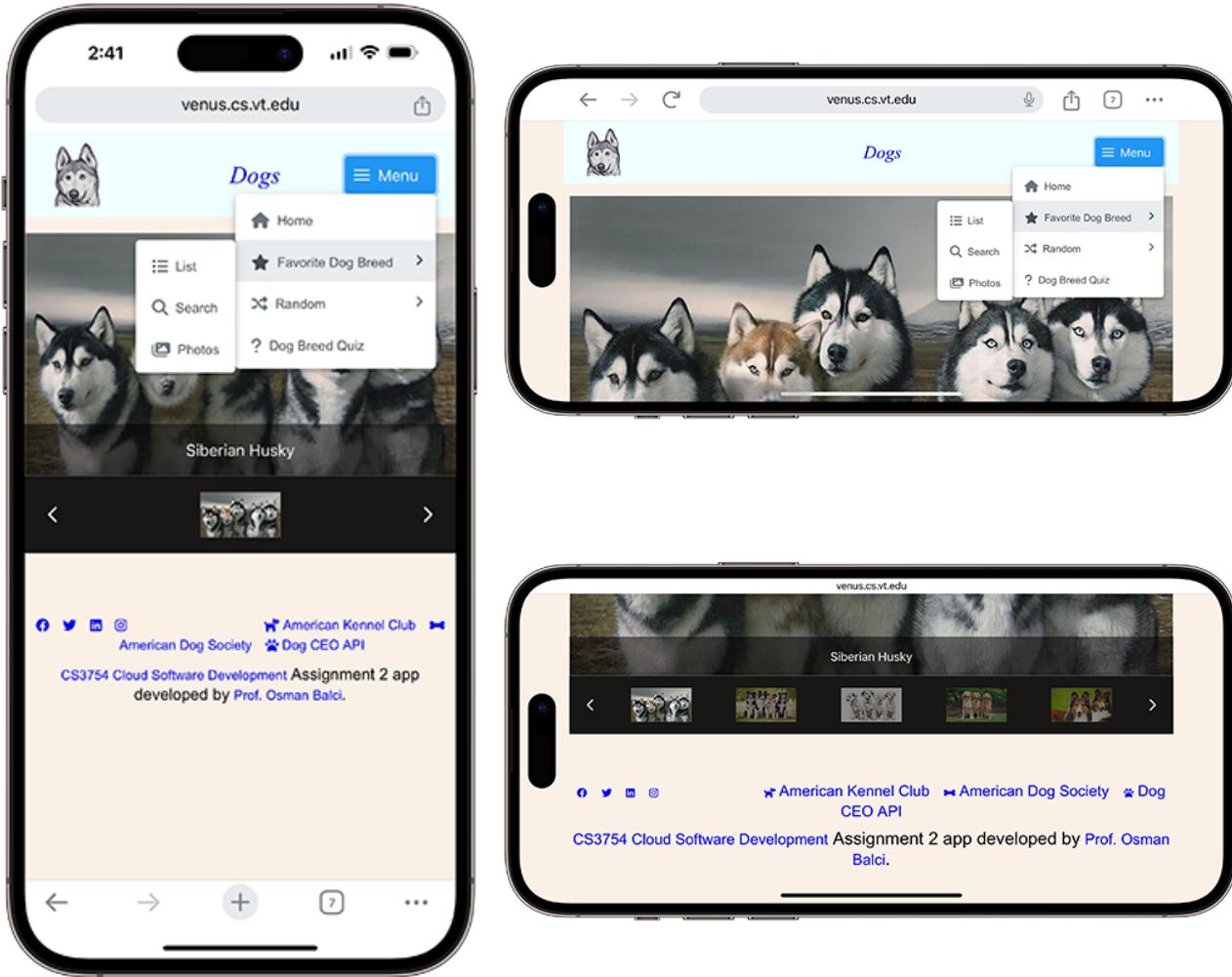
You can observe the functionality of the app at <https://venus.cs.vt.edu/Dogs-Balci/>

## Home

Entering the URL of your application in a web browser on a desktop, laptop, tablet, or smartphone computer shall display the following homepage with the UI as shown. All UI components as part of the following UI design are required.

The screenshot shows a web browser window with the title "Dogs". The URL in the address bar is <https://venus.cs.vt.edu/Dogs-Balci/>. The page content includes a large image of several Siberian Huskies. Below the image, the text "Siberian Husky" is displayed. To the right of the image is a vertical navigation menu with options: Home, Favorite Dog Breed, Random, Photos, List, Search, and Dog Breed Quiz. At the bottom of the page, there are social media sharing icons (Facebook, Twitter, LinkedIn, Instagram) and links to external resources: American Kennel Club, American Dog Society, Dog CEO API, and the assignment details: CS3754 Cloud Software Development Assignment 2 app developed by Prof. Osman Balci. The URL <https://venus.cs.vt.edu/Dogs-Balci/#> is also shown at the bottom.

Entering the URL of your application in a web browser on a desktop, laptop, tablet, or smartphone computer shall display the following homepage with the UI as shown. All UI components as part of the following UI design are required.



## Favorite Dog Breed List

Selecting **Favorite Dog Breed → List** from the menu displays the following screen.

Screenshot of a web application titled "Dogs" showing a list of favorite dog breeds. The page includes a search bar, filter buttons, and a table with columns for Name, Description, and various physical statistics.

Name ↑↓	Face Photo	Description ↑↓	Min Years ↑↓	Max Years ↑↓	Countries of Origin ↑↓	Female Min Weight ↑↓	Female Max Weight ↑↓	Male Min Weight ↑↓	Male Max Weight ↑↓	Female Min Height ↑↓	Female Max Height ↑↓	Male Min Height ↑↓	Male Max Height ↑↓	Colors ↑↓	Temperament ↑↓
Basset Hound		The Basset Hound is a short-legged breed of dog in the hound family. The Basset is a scent hound.	10	12	France, Great Britain	44	60	51	64	11	14	12	15	Any recognized hound color	Tenacious, Devoted, Affectionate, Sweet-
Beagle		The beagle is a breed of small hound that is similar in appearance to the much larger foxhound. The beagle	12	15	United Kingdom, England, Great Britain	20	22	22	24	13	15	14	16	Lemon & White, Tri-color, White & Tan.	Intelligent, Amiable, Determined, Excitable.
Bloodhound		The Bloodhound is a very large scent hound, originally bred for hunting deer, wild boar and, since the Middle	10	12	Belgium, United Kingdom, France.	80	100	90	110	23	25	25	27	Liver & Tan, Black & Tan, Red	Stubborn, Affectionate, Even Tempered.
Border Collie		The border collie is a working and herding dog breed developed in the Scottish borders for herding	10	17	United Kingdom, Scotland, Wales.	27	42	30	45	18	21	19	22	Black, White, Blue, Red Merle, Blue Merle, Lilac.	Tenacious, Intelligent, Energetic, Responsive.
Boston Terrier		The Boston Terrier is a breed of dog originating in the United States of America. This American	13	15	United States of America	10	20	15	25	16	17	17	18	Black & White, Brindle & White, Seal & White	Intelligent, Lively, Friendly

### Hint:

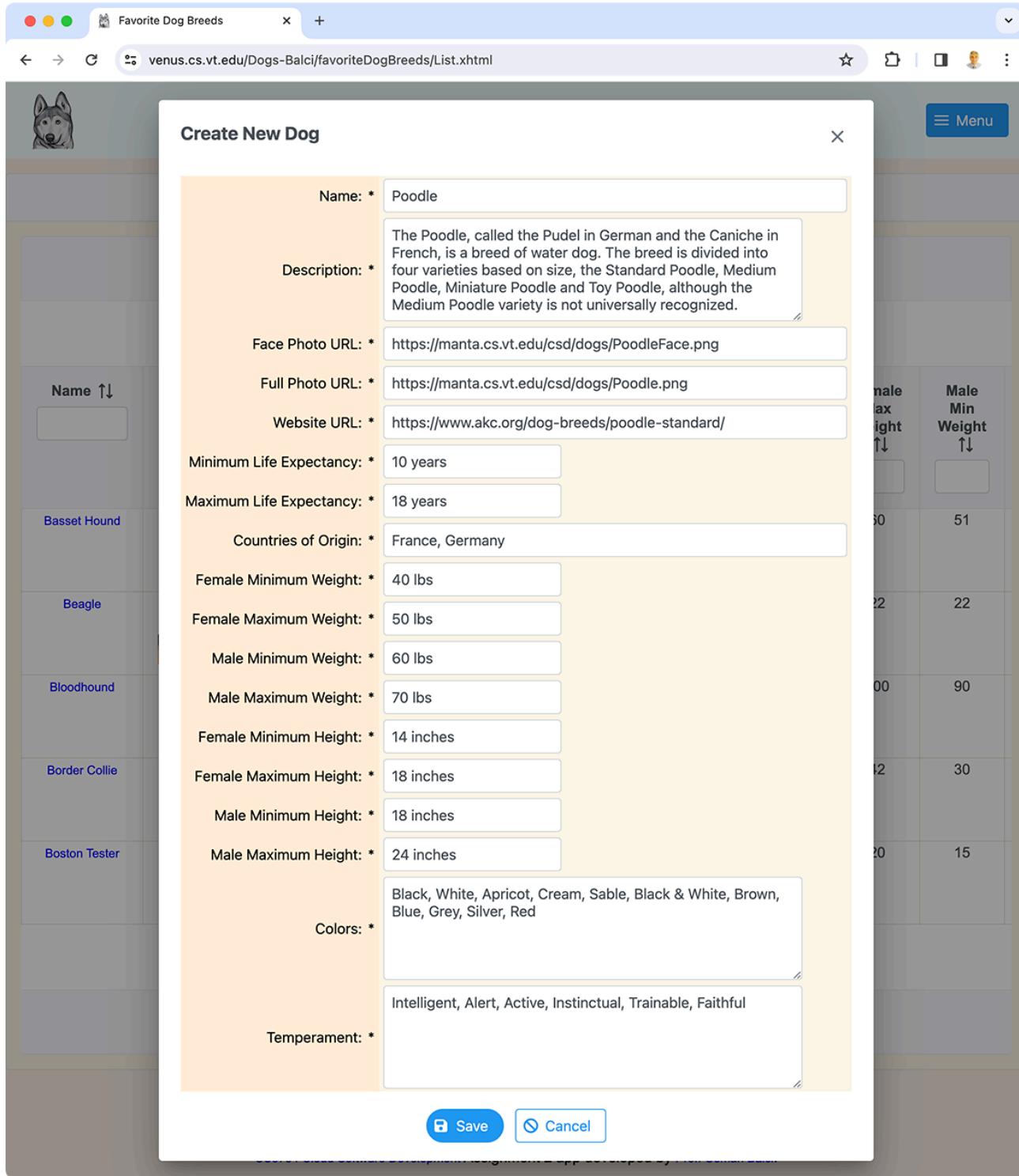
Column	Style
Name	
Face Photo	
Description	
Min Life Years	
Max Life Years	
Country Origin	
Female Min Weight	
Female Max Weight	

Male Min Weight	<
Male Max Weight	<
Female Min Height	<
Female Max Height	<
Male Min Height	<
Male Max Height	<
Colors	<
Temperament	<

The data table lists the favorite dog breeds as shown below. The table is scrollable horizontally.

Name ↑↓	Face Photo	Description ↑↓	Min Years ↑↓	Max Years ↑↓	Countries of Origin ↑↓	Female Min Weight ↑↓	Female Max Weight ↑↓	Male Min Weight ↑↓	Male Max Weight ↑↓	Female Min Height ↑↓	Female Max Height ↑↓	Male Min Height ↑↓	Male Max Height ↑↓	Colors ↑↓	Temperament ↑↓
Boxer		The Boxer is a medium to large, short-haired breed of dog, developed in Germany. The coat is smooth and	10	12	Germany	55	64	60	71	21	24	22	25	Brindle, White, Fawn	Fearless, Intelligent, Devoted, Energetic.
Bulldog		The Bulldog, also known as the British Bulldog or English Bulldog, is a medium-sized dog breed. It	8	10	United Kingdom, England	40	51	51	55	12	16	12	16	White, Fawn, Piebald, Fawn & White, Brindle	Docile, Willful, Gregarious, Friendly
Chihuahua		The Chihuahua is the smallest breed of dog, and is named after the Mexican state of Chihuahua.	12	20	Mexico	2	6	2	6	7	8	9	10	Black, White, Fawn, Cream, Chocolate.	Devoted, Lively, Alert, Courageous, Quick
Chow Chow		The Chow Chow is a dog breed originally from northern China, where it is referred to as Sonshi-	9	15	China, Tibet	44	60	55	71	18	20	19	22	Black, Blue, Fawn, Cream, Red	Aloof, Independent, Loyal, Quiet
Dalmatian		The Dalmatian is a breed of medium-sized dog, noted for its unique black, liver spotted coat and mainl	10	13	Croatia	35	53	33	71	22	23	23	24	Liver & White, Black & White	Intelligent, Energetic, Sensitive, Outgoing.

Clicking **Create** pops up the *Create New Dog* dialog as shown below. After entering the values, clicking **Save** stores the new dog in the database.



**Hint:** Dialog width="70%" height="400". Remember that when height is specified, the dialog becomes automatically vertically scrollable.

Selecting a dog from the list and clicking **View** pops up a dialog that displays the info of the selected dog.

Screenshot of a web application showing a Shetland Sheepdog profile. The main content area displays the dog's name, a large image of the dog, and a detailed table of its characteristics.

**Header:** Favorite Dog Breeds

**Title:** Shetland Sheepdog

**Image:** A close-up photograph of a Shetland Sheepdog (Sheltie) with a thick, brown and white coat, looking slightly to the right.

**Table (Characteristics):**

Dog Name:	Shetland Sheepdog
Description:	The Shetland Sheepdog, often known as the Sheltie, is a breed of herding dog that originated in the Shetland Islands of Scotland. The original name was Shetland Collie, but this caused controversy among the Rough Collie breeders of the time, so the breed's name was formally changed.
Dog Face Photo:	
Life Expectancy [min, max]:	[12, 13] Years
Countries of Origin:	Scotland
Female Weight [min, max]:	[14, 27] lbs
Male Weight [min, max]:	[14, 27] lbs
Female Height [min, max]:	[13, 16] inches
Male Height [min, max]:	[13, 16] inches
Colors:	Merle, Tri-color, Blue Merle, Black & White, Sable & White, Black & Tan, Sable
Temperament:	Intelligent, Affectionate, Responsive, Lively, Reserved, Alert, Loyal, Active, Playful, Trainable, Gentle, Strong

**Buttons:** Close

**Hint:** Dialog width="70%" height="400". Set Table to <table border="1" align="center" cellpadding="5" cellspacing="0">

Selecting a dog from the list and clicking **Edit** pops up a dialog that displays the info of the selected dog as editable (modifiable).

**Edit Golden Retriever Data**

Name: *	Golden Retriever
Description: *	The Golden Retriever is a medium-large gun dog that retrieves shot waterfowl, such as ducks and upland game birds, during hunting and shooting parties. The name retriever refers to the breed's ability to retrieve shot game undamaged due to their soft mouth.
Face Photo URL: *	<a href="https://manta.cs.vt.edu/csd/dogs/GoldenRetrieverFace.png">https://manta.cs.vt.edu/csd/dogs/GoldenRetrieverFace.png</a>
Full Photo URL: *	<a href="https://manta.cs.vt.edu/csd/dogs/GoldenRetriever.png">https://manta.cs.vt.edu/csd/dogs/GoldenRetriever.png</a>
Website URL: *	<a href="https://www.akc.org/dog-breeds/golden-retriever/">https://www.akc.org/dog-breeds/golden-retriever/</a>
Minimum Life Expectancy: *	10 years
Maximum Life Expectancy: *	12 years
Countries of Origin: *	United Kingdom, Scotland, England
Female Minimum Weight: *	55 lbs
Female Maximum Weight: *	71 lbs
Male Minimum Weight: *	65 lbs
Male Maximum Weight: *	75 lbs
Female Minimum Height: *	20 lbs
Female Maximum Height: *	22 lbs
Male Minimum Height: *	22 lbs
Male Maximum Height: *	24 lbs
Colors: *	Cream, Dark Golden, Light Golden, Golden
Temperament: *	Reliable, Intelligent, Kind, Trustworthy, Friendly, Confident

**Save**   **Cancel**

**Hint:** Dialog width="70%" height="400". Remember that when height is specified, the dialog becomes automatically vertically scrollable.

Selecting a dog from the list and clicking **Delete** pops up a dialog to confirm the deletion of the selected dog.

The screenshot shows a web application interface for managing dog breeds. At the top, there's a navigation bar with a logo, the title 'Dogs', and a 'Menu' button. Below the header is a search bar with placeholder text 'Enter Global Search Query' and a 'Clear All Filters' button. A pagination control shows page 2 of 5.

Name ↑↓	Face Photo	Description ↑↓	Min Years ↑↓	Max Years ↑↓	Countries of Origin ↑↓	Female Min Weight ↑↓	Female Max Weight ↑↓	Male Min Weight ↑↓
Boxer		The Boxer is a medium to large, short-haired dog, developed in Germany. The coat is smooth and tan with black markings.	10	12	Germany	55	64	60
Bulldog		The Bulldog, also known as the British Bulldog or English Bulldog, is a medium-sized dog.			England, France, and Ireland	40	51	51
Chihuahua		The Chihuahua is the smallest breed of dog, named after the state of Chihuahua.			Mexico	2	6	2
Chow Chow		The Chow Chow is a dog breed originally from northern China, where it is referred to as Sonashi.	9	15	China, Tibet	44	60	55
Dalmatian		The Dalmatian is a breed of medium-sized dog, noted for its unique black, liver-spotted coat and mainly white fur.	10	13	Croatia	35	53	33

At the bottom of the table, there's another set of pagination controls. Below the table is a row of buttons: '+ Create', 'View', 'Edit', 'Delete', and 'Dog Photo'. The 'Dog Photo' button is highlighted with a red border, indicating it's the active action. A 'Deletion Confirmation' dialog box is overlaid on the table, containing the message 'Are you sure you want to permanently delete the selected dog Chow Chow from the database?' with 'No' and 'Yes' buttons.

At the very bottom of the page, there are social media sharing icons (Facebook, Twitter, LinkedIn, GitHub) and links to external resources: 'American Kennel Club', 'American Dog Society', 'Dog CEO API', and a note about the app being developed by Prof. Osman Balci.

Selecting a dog from the list and clicking **Dog Photo** pops up a dialog that displays the full body photo of the selected dog.

The screenshot shows a web browser window titled "Favorite Dog Breeds" with the URL "venus.cs.vt.edu/Dogs-Balci/favoriteDogBreeds/List.xhtml". The main page displays a list of dog breeds: Dalmatian, Boxer, Bulldog, Chihuahua, Chow Chow, and Dalmatian. A modal dialog box is open over the list, centered on the Dalmatian entry. The dialog has a title "Dalmatian" and contains a large image of a white Dalmatian puppy with black spots. At the bottom of the dialog is a "Close" button. The background of the main page shows a grid of columns for "Male Max Height", "Male Min Height", and "Female Max Weight", "Female Min Weight". Below the list is a navigation bar with buttons for "+ Create", "View", "Edit", "Delete", and "Dog Photo". At the bottom of the page are social media sharing icons and links to the American Kennel Club, American Dog Society, and Dog CEO API.

**Hint:** Dialog width="70%" No height value.

## Favorite Dog Breed Search

Selecting **Favorite Dog Breed → Search** from the menu displays the following screen, which lists 7 types of database search as shown below.

**Dogs**

Favorite Dog Breeds Database Search

Type	Description	Search
1	Search Name, Description, Origin, Color, or Temperament individually or search in each	Search Type 1
2	Min Life Expectancy is between minLifeExpectancyLowestQ and minLifeExpectancyHighestQ AND Max Life Expectancy is between maxLifeExpectancyLowestQ and maxLifeExpectancyHighestQ	Search Type 2
3	Countries of Origin contains originQ AND Colors contains colorQ AND Temperament contains temperamentQ	Search Type 3
4	Female Min Weight $\geq$ femaleMinWeightQ AND Female Max Weight $\leq$ femaleMaxWeightQ	Search Type 4
5	Male Min Weight $\geq$ maleMinWeightQ AND Male Max Weight $\leq$ maleMaxWeightQ	Search Type 5
6	Female Min Height $\geq$ femaleMinHeightQ AND Female Max Height $\leq$ femaleMaxHeightQ	Search Type 6
7	Male Min Height $\geq$ maleMinHeightQ AND Male Max Height $\leq$ maleMaxHeightQ	Search Type 7

[Facebook](#) [Twitter](#) [LinkedIn](#) [Instagram](#) [American Kennel Club](#) [American Dog Society](#) [Dog CEO API](#)  
CS3754 Cloud Software Development Assignment 2 app developed by Prof. Osman Balci.

Clicking **Search Type 1** pops up a dialog with search options.

**Dogs**

**Type 1 Search**

Type	Search
1	Search Name, Description
2	Min Life Expectancy is between minLifeExpectancyHighQ and maxLifeExpectancyLowQ
3	Countries of Origin contain Temperatures
4	Female Min Weight ≥ femaleMinWeightQ AND Female Max Weight ≤ femaleMaxWeightQ
5	Male Min Weight ≥ maleMinWeightQ AND Male Max Weight ≤ maleMaxWeightQ
6	Female Min Height ≥ femaleMinHeightQ AND Female Max Height ≤ femaleMaxHeightQ
7	Male Min Height ≥ maleMinHeightQ AND Male Max Height ≤ maleMaxHeightQ

[American Kennel Club](#) [American Dog Society](#) [Dog CEO API](#)

Example selections are made as shown below.

The screenshot shows a web browser window with the title "Favorite Dog Breeds Search". The URL is "venus.cs.vt.edu/Dogs-Balci/favoriteDogBreedsSearch/FavoriteDogBreedsSearch.xhtml". The page has a header with a dog icon, the word "Dogs", and a "Menu" button. Below the header is a graphic of a database cylinder with a magnifying glass over it. A modal dialog titled "Type 1 Search" is open in the center. It contains a dropdown menu set to "Temperament", a text input field containing "affect", and two buttons: "Submit" and "Cancel". To the right of the modal is a table with columns "Type" and "Search". The table rows are:

Type	Search
1	Search Name, Description Search Name, Description
2	Min Life Expectancy is minLifeExpectancyHighQ maxLifeExpectancyLowQ
3	Countries of Origin contain Temperament
4	Female Min Weight ≥ female femaleMinWeightQ
5	Male Min Weight ≥ male maleMinWeightQ
6	Female Min Height ≥ femaleMinHeightQ AND Female Max Height ≤ femaleMaxHeightQ
7	Male Min Height ≥ maleMinHeightQ AND Male Max Height ≤ maleMaxHeightQ

At the bottom of the page, there are social media sharing icons (Facebook, Twitter, LinkedIn, Instagram) and links to "American Kennel Club", "American Dog Society", and "Dog CEO API". There is also a note: "CS3754 Cloud Software Development Assignment 2 app developed by Prof. Osman Balci."

Database search results are displayed as shown below.

Database Search Results

Dogs

Database Search Results

Database Search Results															
<input type="button" value="Name ↑↓"/>	<input type="button" value="Face Photo"/>	<input type="button" value="Description ↑↓"/>	<input type="button" value="Min Years ↑↓"/>	<input type="button" value="Max Years ↑↓"/>	<input type="button" value="Countries of Origin ↑↓"/>	<input type="button" value="Female Min Weight ↑↓"/>	<input type="button" value="Female Max Weight ↑↓"/>	<input type="button" value="Male Min Weight ↑↓"/>	<input type="button" value="Male Max Weight ↑↓"/>	<input type="button" value="Female Min Height ↑↓"/>	<input type="button" value="Female Max Height ↑↓"/>	<input type="button" value="Male Min Height ↑↓"/>	<input type="button" value="Male Max Height ↑↓"/>	<input type="button" value="Colors ↑↓"/>	<input type="button" value="Temperament ↑↓"/>
<a href="#">Basset Hound</a>		The Basset Hound is a short-legged breed of dog in the hound family. The Basset is a scent hound.	10	12	France, Great Britain	44	60	51	64	11	14	12	15	Any recognized hound color	Tenacious, Devoted, Affectionate, Sweet-
<a href="#">Bloodhound</a>		The Bloodhound is a very large scent hound, originally bred for hunting deer, wild boar and, since the Middle	10	12	Belgium, United Kingdom, France,	80	100	90	110	23	25	25	27	Liver & Tan, Black & Tan, Red	Stubborn, Affectionate, Even Tempered.
<a href="#">Shetland Sheepdog</a>		The Shetland Sheepdog, often known as the Sheltie, is a breed of herding dog that originated in the	12	13	Scotland	14	27	14	27	13	16	13	16	Merle, Tri-color, Blue Merle, Black & White.	Intelligent, Affectionate, Responsive, Lively.

View Dog Photo Go Back

[!\[\]\(5462a62144ec6ad15b20b37b7ca1cfd9\_img.jpg\)](#) [!\[\]\(d31fb64dbb514a38bb02cd3a863f2d7f\_img.jpg\)](#) [!\[\]\(76c209a6b463cb2a110b76c84ef51303\_img.jpg\)](#) [!\[\]\(87dbe7ce0d03b0b908fa418a99a3b44a\_img.jpg\)](#) American Kennel Club American Dog Society Dog CEO API  
CS3754 Cloud Software Development Assignment 2 app developed by Prof. Osman Balci.

Clicking **Search Type 2** pops up a dialog with search options.

The screenshot shows a web application for searching dog breeds. At the top, there's a navigation bar with a dog icon, the title "Favorite Dog Breeds Search", and a URL "venus.cs.vt.edu/Dogs-Balci/favoriteDogBreedsSearch/FavoriteDogBreedsSearch.xhtml". On the right side of the header are standard browser controls like back, forward, and refresh.

The main content area has a header "Dogs" and a "Menu" button. Below this, there's a large image of a dog's head. To the left, a table lists seven search types (1-7) with their descriptions. To the right, a sidebar contains buttons for "Search Type 1" through "Search Type 7".

A modal dialog box titled "Type 2 Search" is centered over the page. It contains fields for "Min Life Expectancy Lowest \*" (set to "8 years"), "Min Life Expectancy Highest \*" (set to "10 years"), "Max Life Expectancy Lowest \*" (set to "12 years"), and "Max Life Expectancy Highest \*" (set to "14 years"). At the bottom of the modal are "Submit" and "Cancel" buttons.

At the bottom of the page, there are social media sharing icons (Facebook, Twitter, LinkedIn, Instagram) and links to external resources: "American Kennel Club", "American Dog Society", and "Dog CEO API". There's also a note about the assignment being developed by Prof. Osman Balci.

Database search results are displayed as shown below.

Database Search Results x +

venus.cs.vt.edu/Dogs-Balc/favoriteDogBreedsSearch/SearchResults.xhtml

 Dogs ☰ Menu

Database Search Results

« < 1 2 > » 5

Name ↑↓	Face Photo	Description ↑↓	Min Years ↑↓	Max Years ↑↓	Countries of Origin ↑↓	Female Min Weight ↑↓	Female Max Weight ↑↓	Male Min Weight ↑↓	Male Max Weight ↑↓	Female Min Height ↑↓	Female Max Height ↑↓	Male Min Height ↑↓	Male Max Height ↑↓	Colors ↑↓	Temperament ↑↓
Basset Hound		The Basset Hound is a short-legged breed of dog in the hound family. The Basset is a scent hound that	10	12	France, Great Britain	44	60	51	64	11	14	12	15	Any recognized hound color	Tenacious, Devoted, Affectionate, Sweet-
Bloodhound		The Bloodhound is a very large scent hound, originally bred for hunting deer, wild boar and, since the Middle	10	12	Belgium, United Kingdom, France.	80	100	90	110	23	25	25	27	Liver & Tan, Black & Tan, Red	Stubborn, Affectionate, Even Tempered.
Boxer		The Boxer is a medium to large, short-haired breed of dog, developed in Germany. The coat is smooth and	10	12	Germany	55	64	60	71	21	24	22	25	Brindle, White, Fawn	Fearless, Intelligent, Devoted, Energetic.
Dalmatian		The Dalmatian is a breed of medium-sized dog, noted for its unique black, liver spotted coat and mainly	10	13	Croatia	35	53	33	71	22	23	23	24	Liver & White, Black & White	Intelligent, Energetic, Sensitive, Outgoing.
German Shepherd		The German Shepherd is a breed of medium to large-sized working dog that originated in Germany. In	9	13	Germany	49	71	66	88	22	24	24	26	Black, Black & Tan, Sable, Red & Black, Grey Black &	Intelligent, Curious, Obedient, Alert, Loyal.

« < 1 2 > » 5

[View](#) [Dog Photo](#) [Go Back](#)

[Facebook](#) [Twitter](#) [Email](#) [American Kennel Club](#) [American Dog Society](#) [Dog CEO API](#)  
CS3754 Cloud Software Development Assignment 2 app developed by Prof. Osman Balci.

Clicking **Search Type 3** pops up a dialog with search options.

Type 3 Search

Countries of Origin \*

Colors \*

Temperament \*

Type	Search Name, Description
1	Search Name, Description
2	Min Life Expectancy is greater than or equal to minLifeExpectancyHigh AND maxLifeExpectancyLow
3	Countries of Origin contains United Kingdom AND Temperament contains friendly
4	Female Min Weight ≥ femaleMinWeightQ
5	Male Min Weight ≥ maleMinWeightQ
6	Female Min Height ≥ femaleMinHeightQ
7	Male Min Height ≥ maleMinHeightQ AND Male Max Height ≤ maleMaxHeightQ

Search

American Kennel Club American Dog Society Dog CEO API  
CS3754 Cloud Software Development Assignment 2 app developed by Prof. Osman Balci.

Database search results are displayed as shown below.

Database Search Results

Name ↑↓	Face Photo	Description ↑↓	Min Years ↑↓	Max Years ↑↓	Countries of Origin ↑↓	Female Min Weight ↑↓	Female Max Weight ↑↓	Male Min Weight ↑↓	Male Max Weight ↑↓	Female Min Height ↑↓	Female Max Height ↑↓	Male Min Height ↑↓	Male Max Height ↑↓	Colors ↑↓	Temperament ↑↓
Beagle		The beagle is a breed of small hound that is similar in appearance to the much larger foxhound. The beagle	12	15	United Kingdom, England, Great Britain	20	22	22	24	13	15	14	16	Lemon & White, Tri-color, White & Tan.	Intelligent, Amiable, Determined, Excitable.
Border Collie		The border collie is a working and herding dog breed developed in the Scottish borders for herding	10	17	United Kingdom, Scotland, Wales.	27	42	30	45	18	21	19	22	Black, White, Blue, Red Merle, Blue Merle, Lilac.	Tenacious, Intelligent, Energetic, Responsive.

American Kennel Club American Dog Society Dog CEO API  
CS3754 Cloud Software Development Assignment 2 app developed by Prof. Osman Balci.

Clicking **Search Type 4** pops up a dialog with search options.

The screenshot shows a web browser window titled "Favorite Dog Breeds Search" from the URL [venus.cs.vt.edu/Dogs-Balci/favoriteDogBreedsSearch/FavoriteDogBreedsSearch.xhtml](https://venus.cs.vt.edu/Dogs-Balci/favoriteDogBreedsSearch/FavoriteDogBreedsSearch.xhtml). The main page has a header "Dogs" and a "Menu" button. In the center, there is a large icon of a database cylinder with a magnifying glass. Below it, a table lists search types 1 through 7. A modal dialog box is open, titled "Type 4 Search". It contains fields for "Female Min Weight ≥ \* 10 lbs" and "Female Max Weight ≤ \* 20 lbs", with "Submit" and "Cancel" buttons. To the right of the dialog, a "Search" section lists buttons for "Search Type 1" through "Search Type 7". At the bottom of the page, there are social media icons (Facebook, Twitter, LinkedIn, Instagram) and links to "American Kennel Club", "American Dog Society", and "Dog CEO API".

Type	Search Name, Description	Search
1	Search Name, Description	Search Type 1
2	Min Life Expectancy is between minLifeExpectancyHighQ and maxLifeExpectancyLowQ	Search Type 2
3	Countries of Origin contain Temperatures	Search Type 3
4	Female Min Weight ≥ femaleMinWeightQ AND Female Max Weight ≤ femaleMaxWeightQ	Search Type 4
5	Male Min Weight ≥ maleMinWeightQ AND Male Max Weight ≤ maleMaxWeightQ	Search Type 5
6	Female Min Height ≥ femaleMinHeightQ AND Female Max Height ≤ femaleMaxHeightQ	Search Type 6
7	Male Min Height ≥ maleMinHeightQ AND Male Max Height ≤ maleMaxHeightQ	Search Type 7

Database search results are displayed as shown below.

Database Search Results x +

venus.cs.vt.edu/Dogs-Balcj/favoriteDogBreedsSearch/SearchResults.xhtml

 Dogs ☰ Menu

Database Search Results

<< < 1 > >> 10 ▾

Name ↑↓	Face Photo	Description ↑↓	Min Years ↑↓	Max Years ↑↓	Countries of Origin ↑↓	Female Min Weight ↑↓	Female Max Weight ↑↓	Male Min Weight ↑↓	Male Max Weight ↑↓	Female Min Height ↑↓	Female Max Height ↑↓	Male Min Height ↑↓	Male Max Height ↑↓	Colors ↑↓	Temperament ↑↓
Boston Terrier		The Boston Terrier is a breed of dog originating in the United States of America. This American	13	15	United States of America	10	20	15	25	16	17	17	18	Black & White, Brindle & White, Seal & White	Intelligent, Lively, Friendly
Pug		The pug is a breed of dog with physically distinctive features of a wrinkly, short-muzzled face, and curled	12	15	China	14	18	14	18	10	11	12	13	Black, Fawn, Apricot, Silver Fawn	Docile, Stubborn, Charming, Clever.
Shiba Inu		The Shiba Inu is a Japanese breed of hunting dog. A small-to-medium breed, it is the smallest of	12	15	Japan	15	20	18	24	13	16	14	17	Red, orange, yellow, sesame, black and tan.	Charming, Fearless, Keen, Alert, Confident.

<< < 1 > >> 10 ▾

[View](#) [Dog Photo](#) [Go Back](#)

○ American Kennel Club ▲ American Dog Society ⚡ Dog CEO API  
CS3754 Cloud Software Development Assignment 2 app developed by Prof. Osman Balci.

Clicking **Search Type 5** pops up a dialog with search options.

The screenshot shows a web application for searching dog breeds. At the top, there's a navigation bar with a dog icon, the title "Favorite Dog Breeds Search", and a URL "venus.cs.vt.edu/Dogs-Balci/favoriteDogBreedsSearch/FavoriteDogBreedsSearch.xhtml". On the right side of the header is a "Menu" button.

The main content area features a large image of a database cylinder with a magnifying glass over it, labeled "Dogs". To the right of the search interface is a "Menu" button.

A modal dialog box titled "Type 5 Search" is centered on the page. It contains two input fields: "Male Min Weight ≥ \*" with the value "20 lbs" and "Male Max Weight ≤ \*" with the value "60 lbs". Below these fields are "Submit" and "Cancel" buttons.

To the left of the modal is a table with columns "Type" and "Search". The rows are:

Type	Search
1	Search Name, Description
2	Min Life Expectancy is between minLifeExpectancyHighQ and maxLifeExpectancyLowQ
3	Countries of Origin contain Temperature
4	Female Min Weight ≥ femaleMinWeightQ
5	Male Min Weight ≥ maleMinWeightQ
6	Female Min Height ≥ femaleMinHeightQ AND Female Max Height ≤ femaleMaxHeightQ
7	Male Min Height ≥ maleMinHeightQ AND Male Max Height ≤ maleMaxHeightQ

To the right of the table are seven blue search buttons labeled "Search Type 1" through "Search Type 7".

At the bottom of the page, there are social media sharing icons (Facebook, Twitter, LinkedIn, Instagram) and links to "American Kennel Club", "American Dog Society", and "Dog CEO API". There is also a note: "CS3754 Cloud Software Development Assignment 2 app developed by Prof. Osman Balci."

Database search results are displayed as shown below.

Database Search Results x +

venus.cs.vt.edu/Dogs-Balcj/favoriteDogBreedsSearch/SearchResults.xhtml

 Dogs ☰ Menu

Database Search Results

<< < 1 > >> 10 ▾

Name ↑↓	Face Photo	Description ↑↓	Min Years ↑↓	Max Years ↑↓	Countries of Origin ↑↓	Female Min Weight ↑↓	Female Max Weight ↑↓	Male Min Weight ↑↓	Male Max Weight ↑↓	Female Min Height ↑↓	Female Max Height ↑↓	Male Min Height ↑↓	Male Max Height ↑↓	Colors ↑↓	Temperament ↑↓
Beagle		The beagle is a breed of small hound that is similar in appearance to the much larger foxhound. The beagle	12	15	United Kingdom, England, Great Britain	20	22	22	24	13	15	14	16	Lemon & White, Tri-color, White & Tan.	Intelligent, Amiable, Determined, Excitable.
Border Collie		The border collie is a working and herding dog breed developed in the Scottish borders for herding	10	17	United Kingdom, Scotland, Wales.	27	42	30	45	18	21	19	22	Black, White, Blue, Red Merle, Blue Merle, Lilac.	Tenacious, Intelligent, Energetic, Responsive.
Bulldog		The Bulldog, also known as the British Bulldog or English Bulldog, is a medium-sized dog breed. It	8	10	United Kingdom, England	40	51	51	55	12	16	12	16	White, Fawn, Piebald, Fawn & White, Brindle	Docile, Willful, Gregarious, Friendly
Siberian Husky		The Siberian Husky is a medium-sized working dog breed. The breed belongs to the Spitz genetic family. It is	12	15	Siberia	35	51	44	60	20	22	21	24	White, Black, Agouti, Piebald, Black & Tan.	Intelligent, Outgoing, Alert, Friendly.

<< < 1 > >> 10 ▾

[View](#) [Dog Photo](#) [Go Back](#)

Facebook Twitter LinkedIn American Kennel Club American Dog Society Dog CEO API  
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Clicking **Search Type 6** pops up a dialog with search options.

The screenshot shows a web application for searching dog breeds. At the top, there's a navigation bar with a logo, the title "Favorite Dog Breeds Search", and a URL "venus.cs.vt.edu/Dogs-Balci/favoriteDogBreedsSearch/FavoriteDogBreedsSearch.xhtml". On the left, there's a sidebar with a dog icon and a menu button. The main area features a large graphic of a database cylinder with a magnifying glass over it. A modal window titled "Type 6 Search" is open in the center, containing search criteria for female height: "Female Min Height ≥ \* 10 inches" and "Female Max Height ≤ \* 15 inches". Below these are "Submit" and "Cancel" buttons. To the right of the modal, there's a sidebar with search buttons for various types: "Search Type 1" through "Search Type 7". At the bottom, there are social media sharing icons and links to the American Kennel Club, American Dog Society, and Dog CEO API.

Type	Search Name, Description	Search
1	Search Name, Description	Search Type 1
2	Min Life Expectancy is between minLifeExpectancyHighQ and maxLifeExpectancyLowQ	Search Type 2
3	Countries of Origin contain Temperatures	Search Type 3
4	Female Min Weight ≥ femaleMinWeightQ	Search Type 4
5	Male Min Weight ≥ maleMinWeightQ	Search Type 5
6	Female Min Height ≥ femaleMinHeightQ AND Female Max Height ≤ femaleMaxHeightQ	Search Type 6
7	Male Min Height ≥ maleMinHeightQ AND Male Max Height ≤ maleMaxHeightQ	Search Type 7

Database search results are displayed as shown below.

Database Search Results x +

venus.cs.vt.edu/Dogs-Balc/favoriteDogBreedsSearch/SearchResults.xhtml

 Dogs ☰ Menu

Database Search Results

Name ↑↓	Face Photo	Description ↑↓	Min Years ↑↓	Max Years ↑↓	Countries of Origin ↑↓	Female Min Weight ↑↓	Female Max Weight ↑↓	Male Min Weight ↑↓	Male Max Weight ↑↓	Female Min Height ↑↓	Female Max Height ↑↓	Male Min Height ↑↓	Male Max Height ↑↓	Colors ↑↓	Temperament ↑↓	
Basset Hound		The Basset Hound is a short-legged breed of dog in the hound family. The Basset is a scent hound that	10	12	France, Great Britain	44	60	51	64	11	14	12	15	Any recognized hound color	Tenacious, Devoted, Affectionate, Sweet-	
Beagle		The beagle is a breed of small hound that is similar in appearance to the much larger foxhound. The beagle	12	15	United Kingdom, England, Great Britain	20	22	22	24	13	15	14	16	Lemon & White, Tri-color, White & Tan.	Intelligent, Amiable, Determined, Excitable.	
Pomeranian		The Pomeranian is a breed of dog of the Spitz type that is named for the Pomerania region in north-west Poland	12	16	Germany, Poland	3	7	3	7	10	11	11	12	White, Black, Grey-shaded, Tan, Brown, Orange	Intelligent, Extroverted, Sociable, Active.	
Pug		The pug is a breed of dog with physically distinctive features of a wrinkly, short-muzzled face, and curled	12	15	China	14	18	14	18	10	11	12	13	Black, Fawn, Apricot, Silver Fawn	Docile, Stubborn, Charming, Clever.	

« < > » 10

[View](#) [Dog Photo](#) [Go Back](#)

[Facebook](#) [Twitter](#) [LinkedIn](#) [Instagram](#) [American Kennel Club](#) [American Dog Society](#) [Dog CEO API](#)  
CS3754 Cloud Software Development Assignment 2 app developed by Prof. Osman Balci.

Clicking **Search Type 7** pops up a dialog with search options.

The screenshot shows a web application for searching dog breeds. At the top, there's a navigation bar with a dog icon, the title "Dogs", and a "Menu" button. Below the header, there's a large image of a database with a magnifying glass over it. On the left, a table lists search types from 1 to 7. Types 1 through 6 have their descriptions cut off. Type 7 is fully visible and describes a search for male dogs between 20 and 24 inches tall. A modal dialog box is centered over the page, titled "Type 7 Search". It contains two input fields: "Male Min Height ≥ \*" with "20 inches" entered, and "Male Max Height ≤ \*" with "24 inches" entered. Below these fields are "Submit" and "Cancel" buttons. To the right of the modal, there's a table with columns "Search" and "Type". The "Search" column contains buttons labeled "Search Type 1" through "Search Type 7". The "Type" column contains the numbers 1 through 7. At the bottom of the page, there are social media sharing icons (Facebook, Twitter, LinkedIn, Instagram), links to the American Kennel Club, American Dog Society, and Dog CEO API, and a note about the assignment being developed by Prof. Osman Balci.

Database search results are displayed as shown below.

Database Search Results x +

venus.cs.vt.edu/Dogs-Balcj/favoriteDogBreedsSearch/SearchResults.xhtml

 Dogs ☰ Menu

Database Search Results

<< < 1 > >> 10

Name ↑↓	Face Photo	Description ↑↓	Min Years ↑↓	Max Years ↑↓	Countries of Origin ↑↓	Female Min Weight ↑↓	Female Max Weight ↑↓	Male Min Weight ↑↓	Male Max Weight ↑↓	Female Min Height ↑↓	Female Max Height ↑↓	Male Min Height ↑↓	Male Max Height ↑↓	Colors ↑↓	Temperament ↑↓
Dalmatian		The Dalmatian is a breed of medium-sized dog, noted for its unique black, liver spotted coat and mainly white fur.	10	13	Croatia	35	53	33	71	22	23	23	24	Liver & White, Black & White	Intelligent, Energetic, Sensitive, Outgoing.
Golden Retriever		The Golden Retriever is a medium-large gun dog that retrieves shot waterfowl, such as ducks and upland birds.	10	12	United Kingdom, Scotland, England	55	71	65	75	20	22	22	24	Cream, Dark Golden, Light Golden, Golden	Reliable, Intelligent, Kind, Trustworthy.
Labrador Retriever		The Labrador Retriever, or just Labrador, is a medium-large breed of retriever-gun dog. The Labrador is the most popular dog breed in the world.	10	14	Newfoundland	55	71	64	79	22	24	22	24	Black, Chocolate, Yellow	Intelligent, Kind, Even Tempered, Outgoing.
Siberian Husky		The Siberian Husky is a medium-sized working dog breed. The breed belongs to the Spitz genetic family. It is a double-coated breed with a thick outer coat and a soft undercoat.	12	15	Siberia	35	51	44	60	20	22	21	24	White, Black, Agouti, Piebald, Black & Tan.	Intelligent, Outgoing, Alert, Friendly.

<< < 1 > >> 10

[View](#) [Dog Photo](#) [Go Back](#)

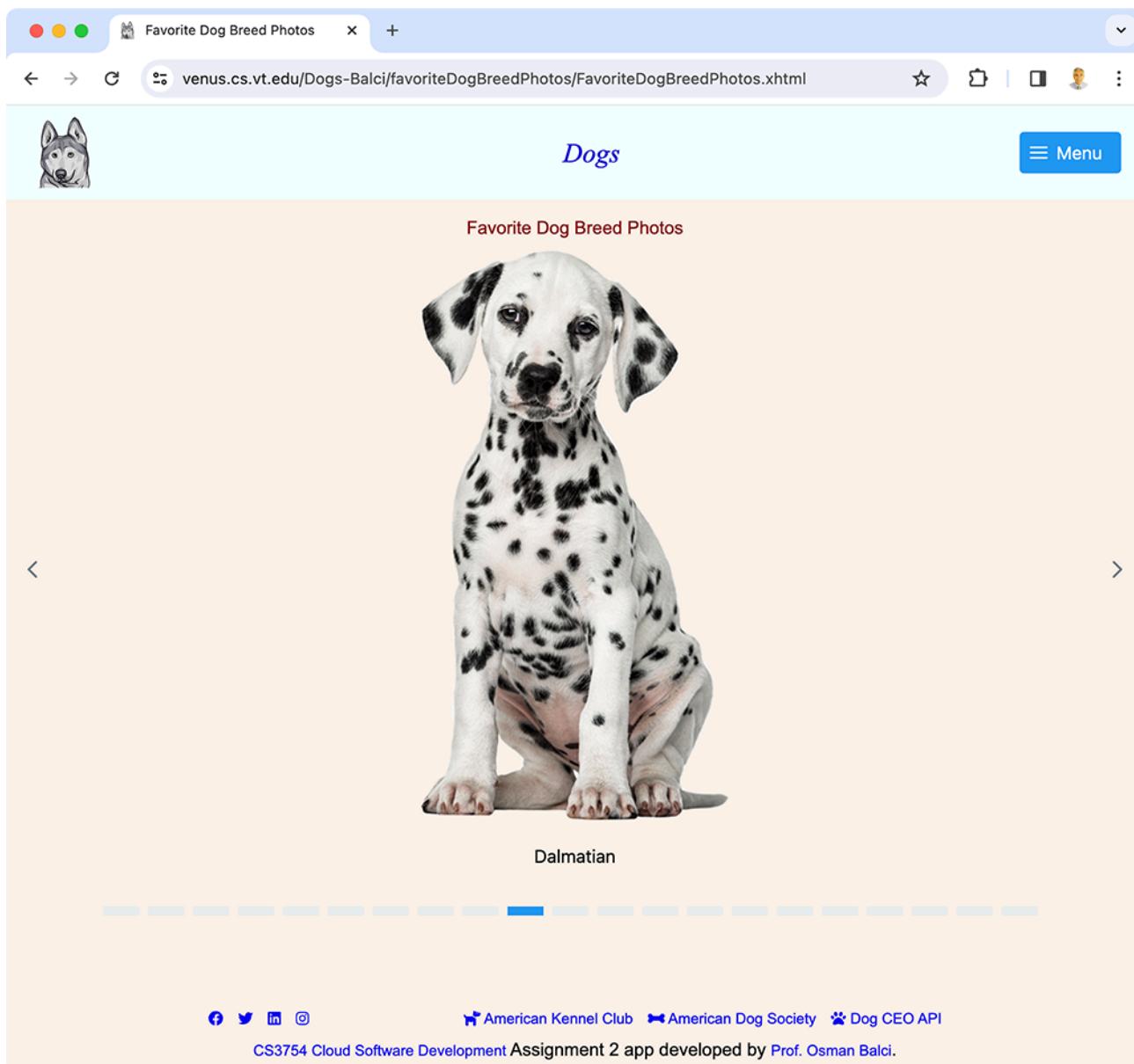
 American Kennel Club  American Dog Society  Dog CEO API  
CS3754 Cloud Software Development Assignment 2 app developed by Prof. Osman Balci.

## Favorite Dog Breed Photos

Selecting **Favorite Dog Breed → Photos** from the menu displays the following screen.

The screenshot shows a web browser window with the title "Favorite Dog Breed Photos". The URL in the address bar is "venus.cs.vt.edu/Dogs-Balci/favoriteDogBreedPhotos/FavoriteDogBreedPhotos.xhtml". The page content is titled "Favorite Dog Breed Photos" and features a large, centered image of a Basset Hound sitting. Below the image is the text "Basset Hound". On the left side of the image are two small arrow icons (< and >). At the bottom of the page, there is a navigation bar with social media links (Facebook, Twitter, LinkedIn, Instagram) and links to "American Kennel Club", "American Dog Society", and "Dog CEO API". A footer note states "CS3754 Cloud Software Development Assignment 2 app developed by Prof. Osman Balci."

The user navigates from one photo to another by using the arrow buttons or clicking an indicator icon.



A screenshot of a web browser window titled "Favorite Dog Breed Photos". The URL in the address bar is [venus.cs.vt.edu/Dogs-Balci/favoriteDogBreedPhotos/FavoriteDogBreedPhotos.xhtml](https://venus.cs.vt.edu/Dogs-Balci/favoriteDogBreedPhotos/FavoriteDogBreedPhotos.xhtml). The page header "Dogs" is in blue. A small dog icon is in the top left. A blue button on the right says "Menu". The main content is titled "Favorite Dog Breed Photos" and features a large image of a white Dalmatian puppy with black spots, sitting upright. Below the image is the text "Dalmatian". At the bottom, there's a horizontal navigation bar with icons for social media sharing and links to "American Kennel Club", "American Dog Society", and "Dog CEO API". It also mentions "CS3754 Cloud Software Development Assignment 2 app developed by Prof. Osman Balci".

You may see large space below a photo. It is because the Carousel sets its height for the image with the maximum height.

A screenshot of a web browser window titled "Favorite Dog Breed Photos". The URL in the address bar is [venus.cs.vt.edu/Dogs-Balci/favoriteDogBreedPhotos/FavoriteDogBreedPhotos.xhtml](https://venus.cs.vt.edu/Dogs-Balci/favoriteDogBreedPhotos/FavoriteDogBreedPhotos.xhtml). The page displays a large, central image of a Siberian Husky sitting and looking slightly to the right. Above the image, the word "Dogs" is written in blue. To the right of the image is a blue button labeled "Menu". Below the image, the text "Siberian Husky" is centered. At the bottom of the page, there is a footer with social media icons (Facebook, Twitter, LinkedIn, Instagram) and links to "American Kennel Club", "American Dog Society", and "Dog CEO API". It also mentions "CS3754 Cloud Software Development Assignment 2 app developed by Prof. Osman Balci".

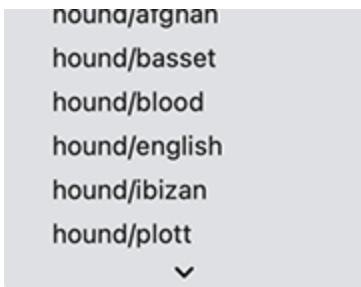
## Random Dog Breed Photo

Selecting **Random → Dog Breed Photo** from the menu displays the following screen.

The screenshot shows a web browser window with the title "Random Dog Breed Photo". The URL in the address bar is [venus.cs.vt.edu/Dogs-Balci/randomDogBreedPhoto/RandomDogBreedPhoto.xhtml](https://venus.cs.vt.edu/Dogs-Balci/randomDogBreedPhoto/RandomDogBreedPhoto.xhtml). The page itself has a light blue header with a small dog icon and the word "Dogs". A blue button on the right says "Menu". Below the header, the text "Random Dog Breed Photo" is centered. A dropdown menu labeled "Select a Dog Breed" is open. At the bottom center is a blue button with a camera icon and the text "Show Dog Breed Random Photo". Below this button, there are social media sharing icons (Facebook, Twitter, LinkedIn, and Instagram) and links to "American Kennel Club", "American Dog Society", and "Dog CEO API". A footer note at the bottom states: "CS3754 Cloud Software Development Assignment 2 app developed by Prof. Osman Balci."

The user selects a dog breed from the list shown below. The Java code for this list is given in the [Development Notes](#) under How-Tos.

✓ affenpinscher  
african  
airedale  
akita  
appenzeller  
australian/shepherd  
basenji  
beagle  
bluetick  
borzoi  
bouvier  
boxer  
brabancon  
briard  
buuhund/norwegian  
bulldog/boston  
bulldog/english  
bulldog/french  
bullterrier/staffordshire  
cattledog/australian  
chihuahua  
chow  
clumber  
cockapoo  
collie/border  
coonhound  
corgi/cardigan  
cotondetulear  
dachshund  
dalmatian  
dane/great  
deerhound/scottish  
dhole  
dingo  
doberman  
elkhound/norwegian  
entlebucher  
eskimo  
finnish/lapphund  
frise/bichon  
germanshepherd  
greyhound/italian  
groenendael  
havanese



Random Dog Breed Photo    venus.cs.vt.edu/Dogs-Balci/randomDogBreedPhoto/RandomDogBreedPhoto.xhtml

Dogs    Menu

Random Dog Breed Photo

spaniel/cocker ▾



Show Dog Breed Random Photo

[Facebook](#) [Twitter](#) [LinkedIn](#) [Instagram](#)    American Kennel Club    American Dog Society    Dog CEO API  
CS3754 Cloud Software Development Assignment 2 app developed by Prof. Osman Balci.

**Hint:** <h:graphicImage value="#{dogBreedController.dogBreedRandomPhotoUrl}" class="scalableImage" />

After selecting a dog breed, clicking **Show Dog Breed Random Photo** sends the query to the API, obtains the JSON file, parses the file, extracts the random photo URL, and displays the random photo.

A screenshot of a web browser window titled "Random Dog Breed Photo". The URL in the address bar is [venus.cs.vt.edu/Dogs-Balci/randomDogBreedPhoto/RandomDogBreedPhoto.xhtml](https://venus.cs.vt.edu/Dogs-Balci/randomDogBreedPhoto/RandomDogBreedPhoto.xhtml). The page header includes a small dog icon, the word "Dogs", and a "Menu" button. The main content area is titled "Random Dog Breed Photo" and features a dropdown menu set to "spaniel/cocker". Below the dropdown is a photograph of a white, curly-haired dog (likely a Poodle or similar breed) sitting on a wooden floor. At the bottom of the page is a blue button labeled "Show Dog Breed Random Photo" with a camera icon. Social media sharing icons (Facebook, Twitter, LinkedIn, Instagram) are at the bottom left, and links to the American Kennel Club, American Dog Society, and Dog CEO API are at the bottom right.

Clicking **Show Dog Breed Random Photo** again sends the query to the API, obtains the JSON file, parses the file, extracts the random photo URL, and displays the random photo.

### Random Dog Photo

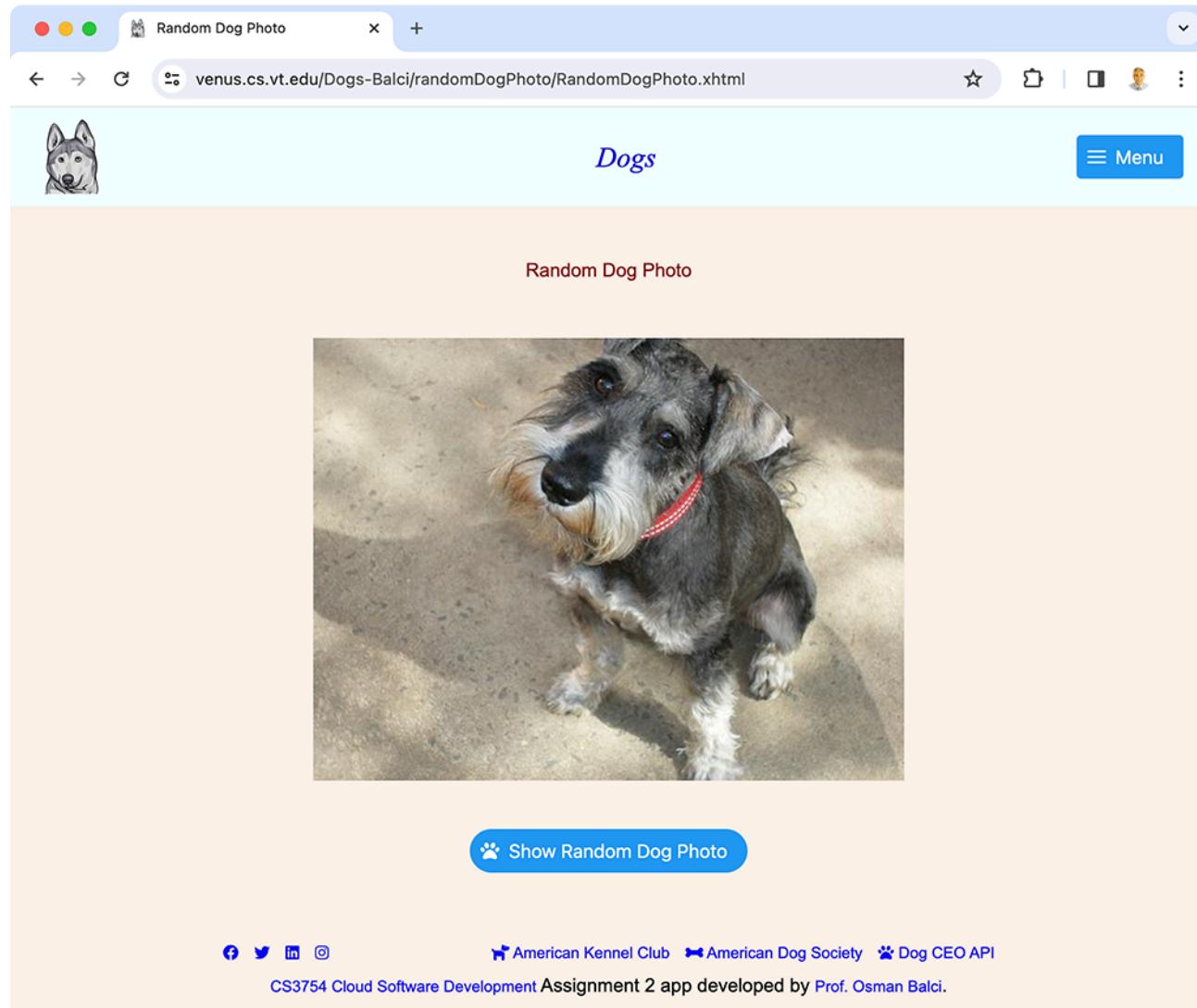
Selecting **Random → Dog Photo** from the menu displays the following screen.

A screenshot of a web browser window titled "Random Dog Photo". The URL in the address bar is [venus.cs.vt.edu/Dogs-Balci/randomDogPhoto/RandomDogPhoto.xhtml](https://venus.cs.vt.edu/Dogs-Balci/randomDogPhoto/RandomDogPhoto.xhtml). The page content includes a small dog icon, the word "Dogs", a "Menu" button, and a large button labeled "Show Random Dog Photo". Below the button are social media sharing icons and links to external resources like the American Kennel Club and Dog CEO API.

Clicking **Show Random Dog Photo** sends the query to the API, obtains the JSON file, parses the file, extracts the random photo URL, and displays the random photo.

A screenshot of a web browser window titled "Random Dog Photo". The URL in the address bar is [venus.cs.vt.edu/Dogs-Balci/randomDogPhoto/RandomDogPhoto.xhtml](https://venus.cs.vt.edu/Dogs-Balci/randomDogPhoto/RandomDogPhoto.xhtml). The page content includes a small dog icon, the word "Dogs", a "Menu" button, and a large image of a brown dog standing in grass. Below the image is a button labeled "Show Random Dog Photo". At the bottom of the page are social media sharing icons and links to external resources like the American Kennel Club and Dog CEO API.

Clicking **Show Random Dog Photo** again sends the query to the API, obtains the JSON file, parses the file, extracts the random photo URL, and displays the random photo.



## Dog Breed Quiz

Selecting **Dog Breed Quiz** from the menu displays the following screen.

Dog Breed Quiz x + v

venus.cs.vt.edu/Dogs-Balci/dogBreedQuiz/DogBreedQuiz.xhtml

 Dogs Menu

Guess the name, life expectancy, countries of origin, or temperament for a dog breed below. Click the info button to see if your guess is correct.

Dog Breed Quiz ≡ 88

(1 of 4) << < 1 2 3 4 > >> 6 ▾

 <span>i</span>	 <span>i</span>	 <span>i</span>
 <span>i</span>	 <span>i</span>	 <span>i</span>

(1 of 4) << < 1 2 3 4 > >> 6 ▾

Facebook Twitter LinkedIn Instagram American Kennel Club American Dog Society Dog CEO API  
CS3754 Cloud Software Development Assignment 2 app developed by Prof. Osman Balci.

Favorite dogs are displayed in the **Grid format** as shown below.

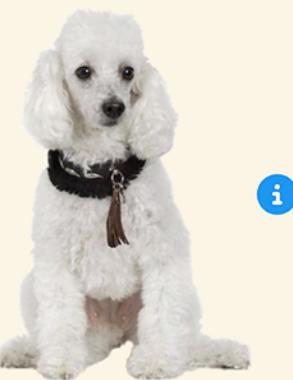
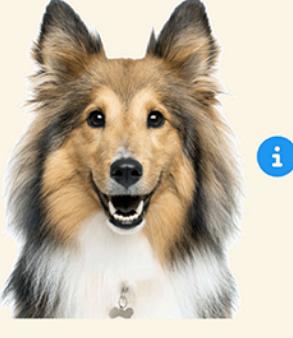
Dog Breed Quiz x + venus.cs.vt.edu/Dogs-Balci/dogBreedQuiz/DogBreedQuiz.xhtml ☆ ☰ ☰ ☰

 Dogs ☰ Menu

Guess the name, life expectancy, countries of origin, or temperament for a dog breed below. Click the info button to see if your guess is correct.

Dog Breed Quiz ☰ grid

(3 of 4) << < 1 2 3 4 > >> 6

(3 of 4) << < 1 2 3 4 > >> 6

Facebook Twitter LinkedIn Instagram American Kennel Club American Dog Society Dog CEO API  
CS3754 Cloud Software Development Assignment 2 app developed by Prof. Osman Balci.

Favorite dogs can also be displayed in the **List format** as shown below.

Dog Breed Quiz x + v

venus.cs.vt.edu/Dogs-Balci/dogBreedQuiz/DogBreedQuiz.xhtml

 Dogs Menu

Guess the name, life expectancy, countries of origin, or temperament for a dog breed below. Click the info button to see if your guess is correct.

Dog Breed Quiz ≡ grid

(1 of 7) << < 1 2 3 4 5 > >> 3 ▾

i

i

i

(1 of 7) << < 1 2 3 4 5 > >> 3 ▾

[Facebook](#) [Twitter](#) [LinkedIn](#) [Instagram](#) [American Kennel Club](#) [American Dog Society](#) [Dog CEO API](#)  
CS3754 Cloud Software Development Assignment 2 app developed by [Prof. Osman Balci](#).

Clicking the **Info button** displays the information about the dog for the user to verify his or her guess.

The screenshot shows a web browser window titled "Dog Breed Quiz" with the URL [venus.cs.vt.edu/Dogs-Balci/dogBreedQuiz/DogBreedQuiz.xhtml](https://venus.cs.vt.edu/Dogs-Balci/dogBreedQuiz/DogBreedQuiz.xhtml). The main page has a header "Dogs" and a "Menu" button. A central text box says: "Guess the name, life expectancy, countries of origin, or temperament for a dog breed below. Click the info button to see if your guess is correct." Below this is a navigation bar with "(1 of 4)" and a page number selector from 1 to 6, currently set to 6. A large modal dialog is open in the foreground, titled "Quiz Answer". It features a close button (X) and a small image of a black and white Border Collie. The dialog contains the following information:

Dog Name:	<a href="#">Border Collie</a>
Description:	The border collie is a working and herding dog breed developed in the Scottish borders for herding livestock, especially sheep. It was specifically bred for intelligence and obedience. They are very fetch oriented.
Life Expectancy [min, max]:	[10, 17] Years
Countries of Origin:	United Kingdom, Scotland, Wales, England, Ireland
Colors:	Black, White, Blue, Red Merle, Blue Merle, Lilac, Brindle, Chocolate, Liver, Sable Merle, Gold, Red
Temperament:	Tenacious, Intelligent, Energetic, Responsive, Keen, Alert

At the bottom of the modal is a "Close" button with a checked checkbox icon.

Below the modal, the main page's footer includes social media links (Facebook, Twitter, LinkedIn, GitHub), links to the American Kennel Club, American Dog Society, and Dog CEO API, and a note about the assignment being developed by Prof. Osman Balci.

**Hint:** Dialog width="80%" No height value.

Session Expired

After 30 minutes of inactivity, session timeout message is displayed as shown below.

A screenshot of a web browser window. The title bar says "Session Expired". The address bar shows the URL "venus.cs.vt.edu/Dogs-Balci/template/sessionTimeout.xhtml". The main content area features a small dog icon, the word "Dogs" in blue, and a "Menu" button. A red error message "Your Session has Expired!" is centered. At the bottom, there are social media sharing icons and links to external sites: "American Kennel Club", "American Dog Society", and "Dog CEO API". It also mentions "CS3754 Cloud Software Development Assignment 2 app developed by Prof. Osman Balci."