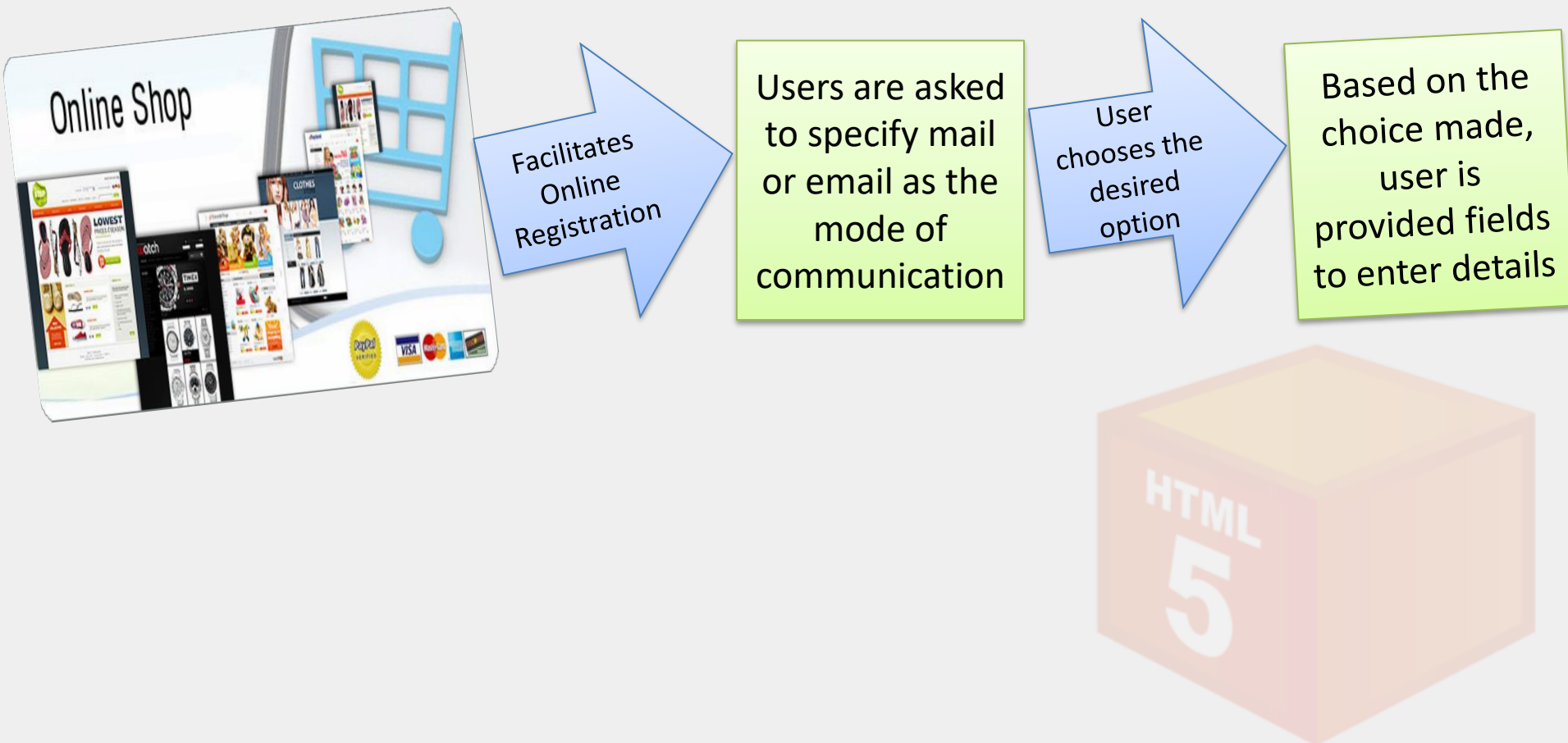◇ In this session, you will learn to:
   ◆ Understand scripting
   ◆ Implement JavaScript in Web pages
   ◆ Use variables, operators, and control structures
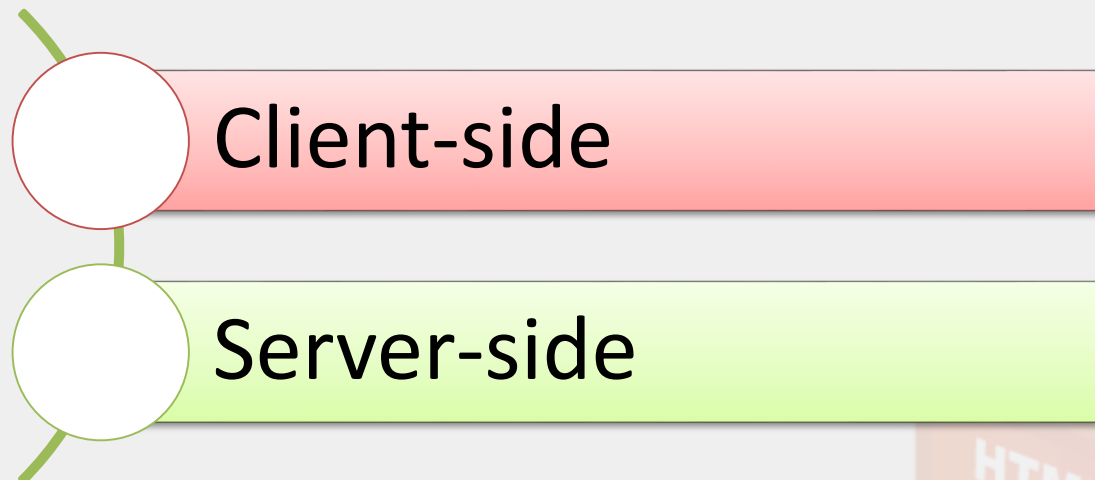
◇ Scenario:

Facilitates Online Registration

Users are asked to specify mail or email as the mode of communication

User chooses the desired option

Based on the choice made, user is provided fields to enter details

◇ A script:
  - ◆ Is a block of code that is incorporated in Web pages to make them dynamic and interactive.
  - ◆ Can be of two types:

Client-side

Server-side

Identifying the Benefits of JavaScript

◇ JavaScript provides the following benefits:

Handle events

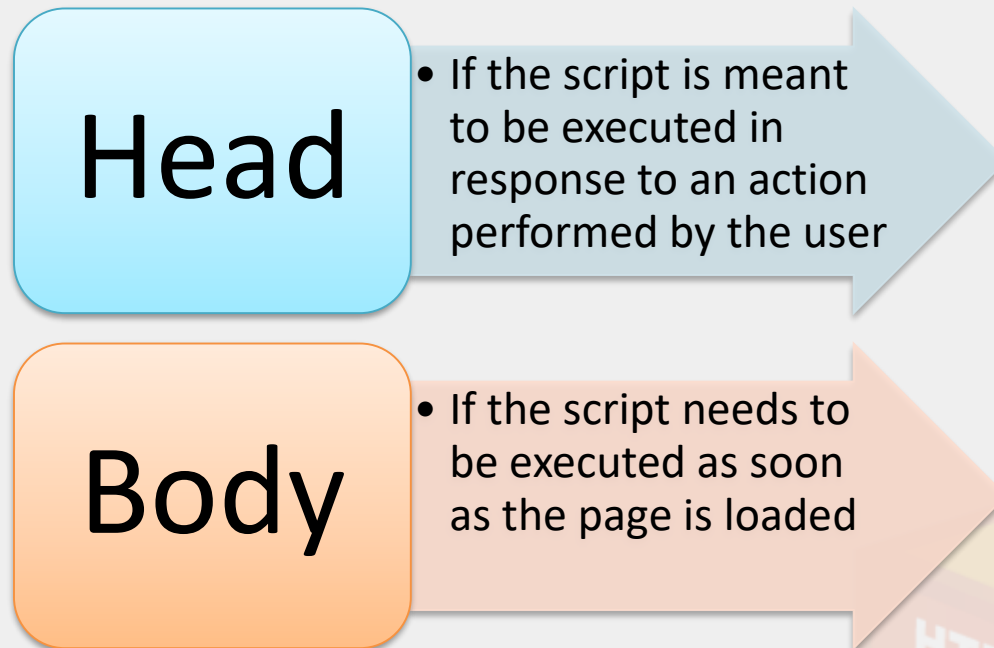Gather browser information

Manipulate cookies

◇ JavaScript:

    ◆ Is a client-side scripting language.

    ◆ Can be directly embedded into a Web page by writing the code inside the `<SCRIPT>` tag.

    ◆ Code can also be written in an external JavaScript (.js) file.

◇ The JavaScript code:
  ◆ Can be inserted in the following sections of the HTML document by using the `<SCRIPT>` tag:

Head	• If the script is meant to be executed in response to an action performed by the user
Body	• If the script needs to be executed as soon as the page is loaded

  ◆ Can be embedded into a Web page by using the following syntax:

```
<SCRIPT type="text/javascript"> JavaScript statements
</SCRIPT>
```

Creating and Using an External File

◇ An external JavaScript file:
  ◆ Is saved with the .js extension.
  ◆ Can be referred inside an HTML document using the `src` attribute of the `<SCRIPT>` tag.

Just a Minute

◇ Which one of the following attributes is used to specify the path of an external JavaScript file?

  ◆ `src`
  ◆ `type`
  ◆ `url`
  ◆ `text`

◇ Solution:
- ◆ `src`

◇ JavaScript rules and conventions:

Semicolons	Quotes
Case sensitivity	Comments

◇ Problem Statement:

- ◆ Steve has been asked to implement functionality in the Upcoming Movies Web page in such a way that when the user opens this page, an alert message appears that specifies the bookings are currently not available. In addition, the same alert should appear when the user clicks any of the BookYourShow links.
- ◆ Prerequisite: You need to use the solution of ShowOnWheels that you have created in Activity 3.2 to perform this activity. Ask your faculty to provide you the same.

◇ Solution:

◆ To display an alert on a Web page, Steve needs to perform the following tasks:

1. Update the upcomingmovies.html file.
2. View the home page.

Using Variables, Operators, and Control Structures

◇ In JavaScript, to compare values and evaluate expressions, you need:

Variables	Operators

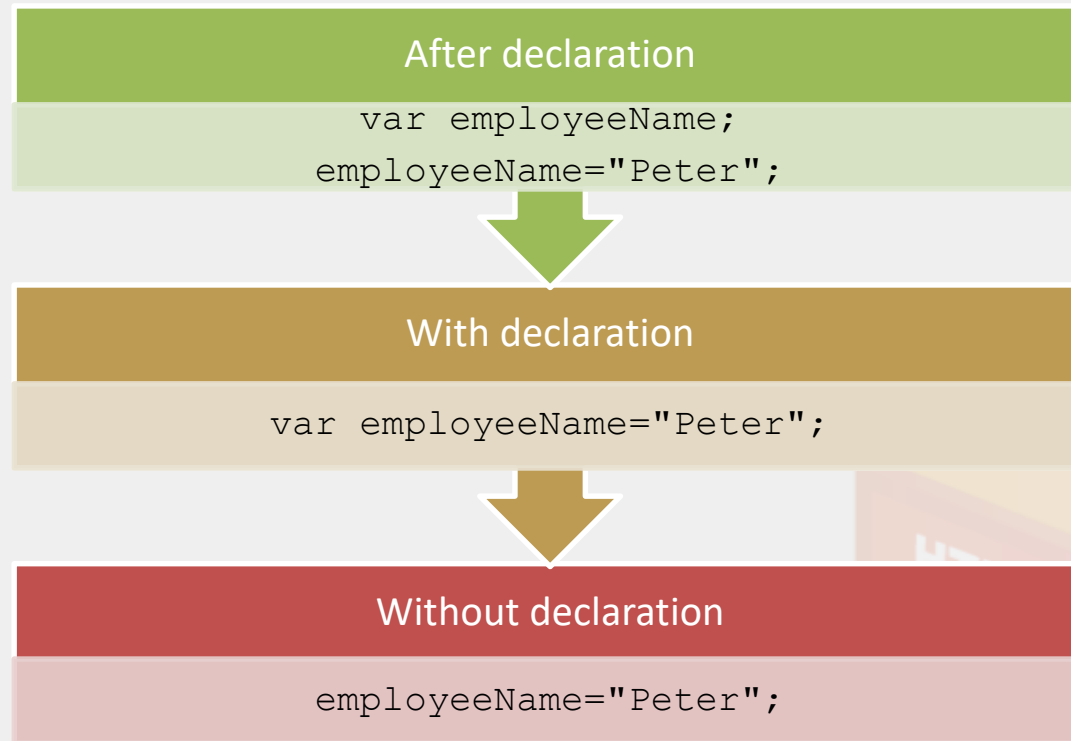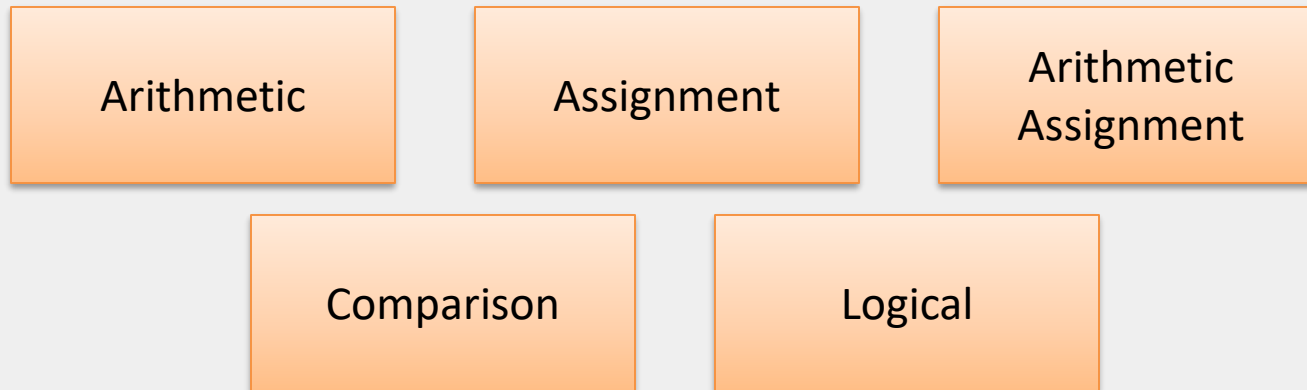| Conditional Constructs	Looping Constructs

Defining Variables

◇ A variable:
- ◆ Is a named location in memory that is used to store a value.
- ◆ Is declared by using the following syntax:
  ```
  var var_name;
  ```
- ◆ Can be assigned a value in the following ways:

After declaration
`var employeeName;` `employeeName="Peter";`

⬇

With declaration
`var employeeName="Peter";`

⬇

Without declaration
`employeeName="Peter";`

Using Operators

◇ An operator:
  ◆ Is a set of one or more characters that is used for computations or comparisons.
  ◆ Can be used to modify the values stored in the variables.
  ◆ Can belong to any one of the following categories:

Arithmetic	Assignment	Arithmetic Assignment

Comparison	Logical

Using Operators (Contd.)

◇ An arithmetic operator:
  ◆ Is used to perform arithmetic operations on variables and literals.
  ◆ Can be of the following types:
    ◆ +
    ◆ –
    ◆ *
    ◆ /
    ◆ %

◇ An assignment operator:
  ◆ Is used to assign a value or a result of an expression to a variable.

◇ Arithmetic assignment operators:
  ◆ Are used to perform arithmetic operations and assign the value to the variable at the left side of the operator.
  ◆ Are of the following types:
    ◆ +=
    ◆ -=
    ◆ *=
    ◆ /=
    ◆ %=

◇ Comparison operators:
  - Are used to compare two values and perform an action on the basis of the comparison.
  - Are of the following types:
    - <
    - >
    - <=
    - >=
    - ==
    - !=
    - ===

Using Operators (Contd.)

◇ Logical operators:
- ◆ Are used to evaluate complex expressions.
- ◆ Return a boolean value.
- ◆ Are of the following types:
  - ◆ &&
  - ◆ !
  - ◆ ||

Summary

◇ In this session, you learned that:

◆ To create a dynamic and interactive Web page, you need to incorporate a block of code, which is known as script, in the Web page.

◆ Scripting can be of two types:
   ◆ Client-side scripting
   ◆ Server-side scripting

◆ A script can be embedded directly into a Web page by writing the JavaScript code inside the `<SCRIPT>` tag or by writing the entire JavaScript code in an external JavaScript (.js) file.

◆ A variable is a named location in memory that is used to store a value.

◆ Values can be assigned to a variable in the following ways:
   ◆ Assigning a value to a variable after its declaration
   ◆ Initializing a variable while declaring it
   ◆ Initializing a variable without declaring it explicitly

◆ An operator is a set of one or more characters that is used for computations or comparisons.

◆ You can use the following categories of operators in JavaScript:
   ◆ Arithmetic operators
   ◆ Assignment operators
   ◆ Arithmetic assignment operators
   ◆ Comparison operators
   ◆ Logical operators