

Introduction to JavaScript

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Introduction to Programming and JavaScript

- What is a program?
 - Set of instructions(code) for a computer to perform.
- A language is required for us to communicate with computer. This is not similar to natural language.
- Instructions are given as statements.
- A sequence of statements is called a program.
- JavaScript is a programming language for the web. It is supported by most web browsers.

Comments and Messages

- Comment the code by using two forward slashes (//) for single line comment
 - //this is a single line comment
- Have the code in /* and */ for block comment
 - /*this is a block comment

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Variables and Datatypes

A variable is used to store values and objects.

```
var x=4;
```

Datatypes:

- String:

```
var str='hellooo';
```

- Number:

```
var num=4;
```

- List:

```
var list=[0,1,2,3,4]; or var list=['hi', 'hello'];
```

Objects

Object:

```
var obj={Name: 'Bob',  
        Age:12,  
        Message: 'Hello everyone!',  
        Behavior: function (name) {  
            return name+ " is happy.";  
        }};
```

Accessing object:

- Square brackets
 - `obj['Name']` //Name is the *key* to access the *value* 'Bob'
- Dot notation
 - `obj.Name`

Events

- Something the browser or a user does.
- Here are some examples of HTML events:
 - Onload
 - Onclick
 -
- Handle the event when it occurs
 - Onclick="displayMsg()"

Functions

Functions group set of operations.

Function names start with a letter and have a pair of parentheses at the end.

Functions often take parameters which tell the function what to do.

The return keyword indicates what the function output is.

```
function myFunction(parameter1, parameter2) {  
    statement;  
    statement;  
    return statement;  
};
```

Function call: `var storeValue=myFunction(a,b);`

User-defined and Pre-defined(built-in) functions

- Example of user-defined function from previous slide:

```
function myFunction(parameter1, parameter2) {  
  var str="Hello";  
  var greeting=str+', '+parameter1+' '+parameter2+'!';  
  return greeting;  
};  
var storeValue=myFunction('Harry','Potter');
```

- Predefined functions are the functions which already have a definition to perform an operation.

```
var num = parseInt("10");
```


Call function using an object

```
var person = {  
  firstName:"John",  
  lastName: "Doe",  
  behavior: function (name) {  
    return name+ " is happy.";  
  }  
}  
  
var personName=person.firstName;  
var storeValue=person.behavior(personName);
```

Working with Dates

The Date object is used to work with dates and times.

1. Construct a date from a JavaScript Date:

```
var now = Date.now();  
alert('Current date time', now);
```

Exception Handling

- The try statement lets you test a block of code for error.
- The catch statement lets you handle the error occurred.

```
try{  
  //code that causes exception  
}  
catch(e){  
  console.log(e.message);  
}
```


Questions?

- This is the end of basic JavaScript. Thank you!