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Objects: Date and Math

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Dates

- There are built-in date objects in JavaScript that will return us date and time information.

```
const pastDate = new Date(1995, 11, 17, 3, 24, 0); // year, month, date, day, hour, minute, second
const myDate = new Date(); // Returns the current date and time.
console.log(myDate);
console.log(myDate.getFullYear()); // Returns the year. Note: don't use the getYear() method
console.log(myDate.getMonth()); // Returns the month number (it is zero based, so 1 is actually Feb)
console.log(myDate.getDate()); // Returns the date
console.log(myDate.getDay()); // Returns the day of the week
console.log(myDate.getHours()); // Returns the hour
console.log(myDate.getMinutes()); // Returns the minute
console.log(myDate.getSeconds()); // Returns the second
console.log(myDate.toISOString()); // international standardized date format
console.log(myDate.getTime()); // Number of milliseconds elapsed between 1 January 1970 00:00:00 UTC
and the given date.
```

International Date/Time API

- JavaScript has a built-in Intl.DateTimeFormat object which enables language-sensitive date and time formatting.

```
const options = {
  hour: "numeric",
  minute: "numeric",
  day: "numeric",
  month: "numeric",
  year: "numeric",
  // weekday: 'long',
};
const myFormattedDate = new Intl.DateTimeFormat("en-NZ", options).format(myDate);
console.log(myFormattedDate);
```

Exercise 1

- Store your birthdate into a variable, then log the date to the console. For example; "My birthdate is the 7th."
- Bonus: Log a second string to the console that prints and the date and month. For example; "My birthday is on the 7th of March."

Math Object

- Math is a built-in object that has properties and methods for mathematical constants and functions. It’s not a function object.
- JavaScript provides several mathematical constants that can be accessed as Math properties.

```
Math.E; // returns Euler's number
Math.PI; // returns PI
Math.SQRT2; // returns the square root of 2
Math.SQRT1_2; // returns the square root of 1/2
Math.LN2; // returns the natural logarithm of 2
Math.LN10; // returns the natural logarithm of 10
Math.LOG2E; // returns base 2 logarithm of E
Math.LOG10E; // returns base 10 logarithm of E
```

https://www.w3schools.com/jsref/jsref_obj_math.asp

Methods in the Math object

```
• Math.max(5, 3, 7); // 7
• Math.min(5, 3, 7); // 3
• Math.floor(5.05); // Always rounds down - 5
• Math.floor(5.95); // Always rounds down – 5
• Math.ceil(5.01); // Always rounds up – 6
• Math.round(5.95); // Rounds up - 6
• Math.round(5.05); // Rounds down – 5
• Math.round(5.5); // Rounds up - 6
• Math.pow(3, 2); // base, exponent. Returns 9
• Math.random(); // pseudo random number between 0 & 1. Output unknown
```

Exercise 2

1. Create an array with three of your favourite numbers
2. Find the ***smallest*** and the ***largest*** numbers of your favourite numbers array using the min/max Math methods.
3. Find the ***square*** of the smallest number from above.
4. Log the output to the console.

Note: *To square a number: multiply it by itself.*

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Thank you | Reuben Simpson