JavaScript & Python
Practice Exercises

Day 1 Review — Arrays, Objects, Loops & Strings

PYTHON EXERCISES

Exercise P1: Sorting Names

Write a Python program that:

1. Asks the user to enter a list of names separated by commas.

2. Sorts the names in alphabetical order.

3. Prints the sorted names separated by commas.

> *Hint: Use .split(), .sort(), and .join()*
>
> *Expected output: If input is 'Tom,Alice,Bob' the output should be 'Alice,Bob,Tom'*

Exercise P2: Longest Word

Write a function called longest_word() that:

1. Takes a sentence as input.

2. Returns the longest word in the sentence.

3. If two words are the same length, return the first one.

> *Test it with: longest_word('The quick brown fox jumps')*
>
> *Expected output: 'jumps'*

Exercise P3: Word Counter

Write a Python program that:

1. Asks the user to enter a sentence.

2. Counts how many words are in the sentence.

3. Prints: 'Your sentence has X words.'

> *Hint: Use .split() and len()*

JAVASCRIPT EXERCISES

Exercise J1: Array Practice

Given this array:

```
const fruits = ['apple', 'banana', 'cherry', 'date', 'elderberry'];
```

1. Remove 'banana' from the array.

2. Add 'fig' to the end of the array.

3. Console.log the index of 'cherry'.

4. Console.log the last element of the array.

5. Console.log a copy of the array without the first and last elements.

   Hint: Use splice(), push(), indexOf(), length, and slice()

Exercise J2: Object Practice

Given this object:

```
const car = { brand: 'Toyota', model: 'Corolla', year: 2020, color: 'blue' };
```

1. Console.log the brand of the car.

2. Console.log the model and year together.

3. Change the color to 'red'.

4. Using a for...in loop, console.log all the keys.

5. Using a for...in loop, console.log all the values.

Exercise J3: Loop Practice

1. Using a for loop, console.log all numbers from 1 to 20.

2. Using a for loop, console.log only the EVEN numbers from 1 to 20.

3. Using a while loop, keep asking the user for a password until they type 'secret'.

   Hint: For even numbers, use the % (modulo) operator. A number is even if number % 2 === 0

Exercise J4: String Methods

Given this sentence:

```
const sentence = 'The weather is not great today but not bad either';
```

1. Console.log the index of the first 'not'.

2. Console.log the index of 'bad'.

3. Console.log the total number of characters in the sentence.

4. Replace 'not great' with 'wonderful' and console.log the result.

Hint: Use indexOf(), length, and replace()

Exercise J5: Bonus Challenge — Number Pattern

Using nested loops, recreate this pattern:

```
1  1  2  1  2  3  1  2  3  4  1  2  3  4  5
```

Hint: The outer loop controls the rows, the inner loop controls the numbers printed.

Good luck! Try your best before checking the answers! ■

Answer Key

Only check after you've tried the exercises yourself!

PYTHON ANSWERS

Exercise P1: Sorting Names

```
user_input = input('Enter names separated by commas: ') names =
user_input.split(',') names.sort() result = ','.join(names) print(result)
```

Exercise P2: Longest Word

```
def longest_word(sentence): words = sentence.split() longest = '' for word in
words: if len(word) > len(longest): longest = word return longest
print(longest_word('The quick brown fox jumps'))
```

Exercise P3: Word Counter

```
sentence = input('Enter a sentence: ') words = sentence.split() print('Your
sentence has ' + str(len(words)) + ' words.')
```

JAVASCRIPT ANSWERS

Exercise J1: Array Practice

```
const fruits = ['apple', 'banana', 'cherry', 'date', 'elderberry']; // 1. Remove
'banana' fruits.splice(1, 1); // 2. Add 'fig' fruits.push('fig'); // 3. Index of
'cherry' console.log(fruits.indexOf('cherry')); // 4. Last element
console.log(fruits[fruits.length - 1]); // 5. Copy without first and last
console.log(fruits.slice(1, fruits.length - 1));
```

Exercise J2: Object Practice

```
const car = { brand: 'Toyota', model: 'Corolla', year: 2020, color: 'blue' }; //
1. Console.log brand console.log(car.brand); // 2. Console.log model and year
console.log(car.model, car.year); // 3. Change color car.color = 'red'; // 4. Log
all keys for (let key in car) { console.log(key) } // 5. Log all values for (let
key in car) { console.log(car[key]) }
```

Exercise J3: Loop Practice

```
// 1. Numbers 1 to 20 for (let i = 1; i <= 20; i++) { console.log(i) } // 2. Even
numbers only for (let i = 1; i <= 20; i++) { if (i % 2 === 0) { console.log(i) }
} // 3. Password loop let password = ''; do { password = prompt('Enter the
password: '); } while (password !== 'secret');
```

Exercise J4: String Methods

```
const sentence = 'The weather is not great today but not bad either'; // 1. Index
of first 'not' console.log(sentence.indexOf('not')); // 2. Index of 'bad'
console.log(sentence.indexOf('bad')); // 3. Total characters
console.log(sentence.length); // 4. Replace 'not great' with 'wonderful'
```

```
console.log(sentence.replace('not great', 'wonderful'));
```

Exercise J5: Bonus Challenge — Number Pattern

```
for (let i = 1; i <= 5; i++) { let row = ''; for (let j = 1; j <= i; j++) { row
+= j + ' '; } console.log(row); }
```

Well done for completing the exercises! Keep practicing every day. ∎