

Assignment-3 submitted by Prateek Agrawal

Q1) Create an array of states in india.

Remove all the names starting with vowels from the list. Use array.filter.

Solution:

```
const states = ["Rajasthan", "Uttar Pradesh", "Odisha", "Maharashtra", "Andhra Pradesh",  
"Karnataka"];  
const filteredStates = states.filter(state => !["A", "E", "I", "O", "U"].includes(state[0]));  
console.log(filteredStates);
```

Q2) let str = 'I love my India'

output expected = 'India my love I'

Write code for this.

Solution:

```
let str = 'I love my India';  
let reversed = str.split(' ').reverse().join(' ');  
console.log(reversed);
```

Q3) let string = 'INDIA'

output = 'INDONESIA'

Use array.splice

Solution:

```
let string = 'INDIA';  
let arr = string.split("");  
arr.splice(3, 2, 'O', 'N', 'E', 'S', 'I', 'A');  
let result = arr.join("");  
console.log(result);
```

Q4) Take any string with minimum 20 characters. Count number of consonant and vowel in the string.

Solution:

```
let str = "Javascript is very powerful";
let vowels = 0, consonants = 0;
for(let ch of str.toLowerCase()) {
  if("aeiou".includes(ch)) vowels++;
  else if(ch >= 'a' && ch <= 'z') consonants++;
}
console.log("Vowels:", vowels, "Consonants:", consonants);
```

Q5) Write a function to replace wrong word with correct word in any sentence.

Like this - correctfn(string, wrong, correct)

Use string.replace in function.

Solution:

```
function correctfn(str, wrong, correct) {
  return str.replace(wrong, correct);
}
console.log(correctfn("I luv coding", "luv", "love"));
```

Q6) inputArr = [1,2,3,9,10,7,5,4,3]

answer = [9, 10, 7]

Use array.filter and return numbers greater than 5.

Solution:

```
let inputArr = [1,2,3,9,10,7,5,4,3];
let ans = inputArr.filter(num => num > 5);
console.log(ans);
```

Q7)

```
const students = [  
  { name: "Ram", scores: [80, 70, 60] },  
  { name: "Mohan", scores: [80, 70, 90] },  
  { name: "Sai", scores: [60, 70, 80] },  
  { name: "Hemang", scores: [90, 90, 80, 80] },  
];
```

```
Output = [  
  { name: "Ram", average: 70 },  
  { name: "Mohan", average: 80 },  
  { name: "Sai", average: 70 },  
  { name: "Hemang", average: 85 },  
];
```

Use array.map and array.reduce.

Solution:

```
let output = students.map(s => {  
  let total = s.scores.reduce((a,b) => a + b, 0);  
  let avg = total / s.scores.length;  
  return { name: s.name, average: avg };  
});  
console.log(output);
```

Q8) Write a function to find repeated sum of digits until there is only a single digit in the number.

Example - 456 - $4+5+6 = 15$ - $1+5 = 6$.

Solution:

```
function digitSum(num) {  
  while(num >= 10) {  
    num = num.toString().split('').reduce((a,b) => a + +b, 0);
```

```
}  
return num;  
}  
console.log(digitSum(456));
```

Q9) Write a function to count the number of words in a paragraph.

Solution:

```
function countWords(str) {  
return str.trim().split(/\s+/).length;  
}  
console.log(countWords("This is a test paragraph with multiple words."));
```

Q10) Write a function to reverse a string.

Input - Hello

Output - olleH

Solution:

```
function reverseString(str) {  
return str.split("").reverse().join("");  
}  
console.log(reverseString("Hello"));
```

Q11)

Input:

```
{  
student1: { subject1: 44, subject2: 56, subject3: 87, subject4: 97, subject5: 37 },  
student2: { subject1: 44, subject2: 56, subject3: 87, subject4: 97, subject5: 37 },  
student3: { subject1: 44, subject2: 56, subject3: 87, subject4: 97, subject5: 37 }  
}
```

Output:

```
{  
  student1: { average: 64.2 },  
  student2: { average: 64.2 },  
  student3: { average: 64.2 }  
}
```

Solution:

```
let data = {  
  student1: {subject1:44,subject2:56,subject3:87,subject4:97,subject5:37},  
  student2: {subject1:44,subject2:56,subject3:87,subject4:97,subject5:37},  
  student3: {subject1:44,subject2:56,subject3:87,subject4:97,subject5:37},  
};  
let result = {};  
for(let key in data){  
  let marks = Object.values(data[key]);  
  let avg = marks.reduce((a,b)=>a+b,0)/marks.length;  
  result[key] = { average: avg };  
}  
console.log(result);
```