JS assignment questions

1. Write a function that takes a string which has lower and upper case letters as a parameter and converts upper case letters to lowercase, and lowercase letters to uppercase. (using String library).

```
function shifter (s){
    s = s.replace(/[a-z]|[A-Z]/g, (match, loc)=>{
      // console.log(match, loc)
      if(match.toLowerCase() === match) return match.toUpperCase();
      if(match.toUpperCase() === match) return match.toLowerCase();
    });
    return s;
}

console.log(shifter("ASaassdDDFF"));
```

2. Implement a function sumOfSquares that takes an array of numbers as input and returns the sum of squares of all the numbers in the array using functional programming techniques

```
function sumOfSquares (s){
    return s.map(x=>x*x).reduce((x, y) => x+ y);
}

console.log(sumOfSquares([1,2,3,4,5]));
```

3. Write a function called countVowels that takes a string as input and returns the count of vowels (case-insensitive) present in the input string.

```
function countVowels (s){
    return s.split("").filter((x) => {
      return /[aeiou]/i.test(x)
    }).length;
}

console.log(countVowels("AEIOUaeioubcdf"));
```

4. Write a regex pattern to extract all valid email addresses from the text.
   "Contact us at: john@example.com, mary@gmail.com, and info@example."

```javascript
function regCheck (s){
    return s.match(/(\w+)@(\w+)\.\w{2,}/g)
}

console.log(regCheck("Contact us at: john@example.com, mary@gmail.com, and
info@example."));
```

5. Predict the output for each of the console.log statements (Output: ???)

```javascript
function getResults() {
  console.log(x); // Output: ???

  if (true) {
    var x = 10;
    let y = 20;
    const z = 30;
  }

  console.log(x); // Output: ???
  console.log(y); // Output: ???
  console.log(z); // Output: ???
}

getResults();
```

undefined
10
Error