

4) Write a JavaScript Program for removing duplicates from an array of numbers and strings.

Ans.

```
function removeDuplicates(array) {  
  // Create an empty object to store unique elements  
  const uniqueElements = {};  
  
  // Iterate over the array  
  array.forEach(item => {  
    // Use the item as a key in the object  
    uniqueElements[item] = true;  
  });  
  
  // Extract unique elements from the object keys  
  const uniqueArray = Object.keys(uniqueElements);  
  
  // Convert uniqueArray back to array of numbers and strings  
  return uniqueArray.map(item => {  
    // Convert the key back to its original data type (number or string)  
    if (!isNaN(parseFloat(item)) && isFinite(item)) {  
      // Convert to number if possible  
      return parseFloat(item);  
    } else {  
      // Otherwise, keep it as string  
      return item;  
    }  
  });  
}  
  
// Test the function with an array of numbers and strings  
const mixedArray = [1, 2, 3, 4, 2, 3, 'apple', 'orange', 'apple', 'banana'];  
const uniqueArray = removeDuplicates(mixedArray);  
console.log(uniqueArray);
```

In this program:

We define a function called `removeDuplicates` that takes an array (`array`) as input.

Inside the function, we create an empty object (`uniqueElements`) to store unique elements.

We iterate over the input array using `forEach` and use each array element as a key in the `uniqueElements` object. JavaScript objects cannot have duplicate keys, so this automatically removes duplicates.

We then extract the unique elements from the object keys using `Object.keys`.

Finally, we convert the resulting array of unique keys back to the original data types (numbers or strings) and return the modified array.