

Assignment 2.

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Programming and Scripting

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```
//Question 1

<!DOCTYPE html>
<html>

<body>

    <script>
        var arr = [];
        // Array must be defined inorder to show output
        function bubbleSort(arr) {
            var i, q, last;
            //last is the last digit of the array
            for (i = 0; i < 10; i++) {
                arr[i] = Number(prompt("Enter number " + (Number(i))));
            }
            //Above code will prompt user to input 10 numbers
            last = arr.length;
            while (last--) {
                // Array length is 10 but will decrement by 1 once it enters
                while loop
                    for (i = 0, q = 1; i < last; i++, q++)
                        // 'i and m' will be used to compare digits, 'last' will be used
                        // to limit the number of loops
                            if (arr[i] > arr[q]) {
                                temp = arr[i];
                                arr[i] = arr[q];
                                arr[q] = temp;
                            }
                        //if statement will analyse numbers according to ascending
                        order
                    }
                return arr;
            }
            document.write("Numbers in ascending order = " + bubbleSort(arr));
        }
    </script>

</body>

</html>
```

```
//Question 2
<!DOCTYPE html>
<html>
<head>

</head>

<body>
  <!--lorem ipsum is used for this script-->
  <h1>Background Color</h1>
  <p> //Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nunc blandi
t suscipit laoreet. Suspendisse sodales quam eget neque dignissim consequat. A
liquam dolor neque, pretium id euismod in, lobortis ut dolor. Cras volutpat fe
ugiat rutrum. Aliquam maximus,
    dolor eget tincidunt faucibus, dui nisl tempus nunc, sit amet vehicula
    diam augue a dolor. Ut non neque non libero scelerisque hendrerit. Mauris nec
    ullamcorper est, quis luctus erat. Sed eu tincidunt ante. Sed eget turpis arc
u. Fusce ac libero
    eget magna gravida iaculis ut vel nisi. Ut eu commodo mi. Sed pretium
velit at neque efficitur scelerisque. Aliquam dapibus libero sit amet arcu feu
giat, eget accumsan dui pretium. Cras sed fermentum erat, vel finibus odio. Qu
isque facilisis,
    ligula sit amet luctus scelerisque, magna nisl euismod ante, non solli
citudin leo mauris interdum purus. Mauris luctus gravida lectus, nec imperdiet
    lacus gravida sit amet. Maecenas dolor erat, pellentesque at condimentum id,
elementum ut nisl.
    Mauris consequat at justo nec finibus. Vivamus aliquet, nunc et eleife
nd venenatis, sem mi iaculis tortor, quis accumsan felis enim eget ante. Vivam
us aliquet luctus nunc, et pretium lorem auctor in. Etiam finibus pulvinar var
ius. Fusce vel justo
    eget ipsum malesuada pellentesque eget sed orci. Suspendisse elementum
, tellus sit amet lacinia efficitur, ex mauris rhoncus eros, sit amet pharetra
    nibh sapien quis dolor. Nunc non nibh fermentum, ultricies orci sit amet, bla
ndit metus. Nullam
    sit amet mi et erat gravida lacinia quis id mi. Aenean malesuada quis
leo cursus tincidunt. Proin porta congue elit at malesuada.//</p>
  <script type="text/javascript">
    var backgroundColor = [];
    backgroundColor = (prompt("Enter color " + backgroundColor));
    document.body.style.backgroundColor = backgroundColor;
    // Both colors and colors codes can be written in the prompt box
    //Color codes give particular colors that can't be written as text
  </script>

</body>
</html>
```

```
//Question 3
<!DOCTYPE html>
<html>

<head>

</head>

<body>

    <script>
        var generateAnagrams = (word, anagram = '', anagrams = []) => {
            if (anagram) {
                anagrams.push(anagram);
            }

            //push will add a letter to the end of the array and returns new length
            if (!word) {
                return;
            }
            //!word means if word is false, there will be no execution of the anagram
            for (let i = 0; i < word.length; i++) {

                anagram += word[i];
                generateAnagrams(word.slice(0, i) + word.slice(i + 1), anagram, anagrams);
                anagram = anagram.slice(0, anagram.length - 1);

            }
            // slice will return selected elements/letters in the array

            let uniq = [...new Set(anagrams.sort())];
            return uniq;
        }

        // 'New Set' will arrange the string by (0, 0+1, 0+1+2), 'sort' will print combinations of STR in lexicographical order

        console.log(generateAnagrams('STR'));
    </script>
</body>

</html>
```