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**Mern 3**

**Ref No. 4911**

**Note: Please copy code and paste it in jsfiddle or any js compiler to run code**

**P1:**

var num = [];

var size = 5;

function arrayInput() {

  for (let i = 0; i < size; i++) {

    num[i] = parseInt(prompt());

  }

}

function findLastElement(n) {

  let lastElementOfArray = n.length - 1;

  let lastElement = n[lastElementOfArray];

  console.log(`The last element of array is ${lastElement}`);

}

arrayInput();

findLastElement(num);

**p2:**

var str = [];

var size = 5;

for (let i = 0; i < size; i++) {

  str[i] = prompt();

}

console.log("Displaying array", str);

console.log(str.join(" "));

**p3:**

const num = parseInt(prompt("Enter Number"));

var str = num.toString();

var result = [str[0]];

for(let x=1; x<str.length; x++)

  {

    if((str[x-1]%2 === 0)&&(str[x]%2 === 0))

     {

      result.push('-', str[x]);

     }

    else

     {

      result.push(str[x]);

     }

  }

console.log(result.join(''));

**p4:**

var arr1 = [4, "x", "x", 3, 5, "x", 7, "x", 9, 3];

var mf = 1;

var m = 0;

var item;

for (var i = 0; i < arr1.length; i++) {

  for (var j = i; j < arr1.length; j++) {

    if (arr1[i] == arr1[j]) m++;

    if (mf < m) {

      mf = m;

      item = arr1[i];

    }

  }

  m = 0;

}

console.log(item + " occurs " + mf + " times ) ");

**p5**

var num = [];

var size = 5;

var s = 0;

var p = 0;

function arrayInput() {

  for (let i = 0; i < size; i++) {

    num[i] = parseInt(prompt());

  }

}

function sum() {

  for (let i = 0; i < size; i++) {

    s += num[i];

  }

  console.log(s);

}

function product() {

  for (let i = 0; i < size; i++) {

    p \*= num[i];

  }

  console.log(p);

}

arrayInput();

sum();

product();

**p6**

Difference between array (didn’t get this question) whether to find subtract two arrays or find size of two arrays

**p7**

const powerset = arr => arr.reduce((a, v) => a.concat(a.map(r => [v].concat(r))), [[]]);

console.log(powerset([1, 2]));

console.log(powerset([1, 2, 3]));

console.log(powerset([1, 2, 3, 4]));

**p8**

var arr1 = [];

var s1 = 3;

function arrayInput1() {

  for (let i = 0; i < s1; i++) {

    arr1[i] = parseInt(prompt("Input 5 elements in Array 1"));

  }

}

arrayInput1();

console.log(`Display array ${arr1}`);

let a = arr1[Math.floor(Math.random() \* s1)];

console.log(`Random no from an array ${a}`);

**p9**

function checkSorted(num) {

  if (num.length === 1) {

    return true;

  }

  var num\_direction = num[1] - num[0];

  for (var i = 0; i < num.length - 1; i++) {

    if (num\_direction \* (num[i + 1] - num[i]) <= 0) {

      return false;

    }

  }

  return true;

}

console.log(checkSorted([3, 4, 5]));

console.log(checkSorted([5, 6, 6]));

console.log(checkSorted([-9, -8, -7]));

**p10**

var arr1 = [];

arr1 = prompt("Enter String");

function dollarString() {

  if (arr1[0] != "$") {

    let x = "$" + arr1;

    console.log(`string is ${x}`);

  } else {

    console.log(`string is ${arr1}`);

  }

}

dollarString();

**p11**

function findSingle(ar, ar\_size) {

  let res = ar[0];

  for (let i = 1; i < ar\_size; i++) res = res ^ ar[i];

  return res;

}

// Driver code

let ar = [2, 3, 5, 4, 5, 3, 4];

let n = ar.length;

console.log("Element occurring once is " + findSingle(ar, n));

**p12**

let str = "A, E, I, O, U \nB, C, D, F, G, J, K, L, M, N, P, Q, S, T, V, X, Z";

console.log(str);

**p13**

function findSecondMax() {

  var arr = [20, 120, 111, 215, 54, 78]; // use int arrays

  var max = Math.max.apply(null, arr); // get the max of the array

  arr.splice(arr.indexOf(max), 1); // remove max from the array

  return Math.max.apply(null, arr); // get the 2nd max

}

console.log(`Second Max Number in an array is ${findSecondMax()}`);

**p14**

var num = parseInt(prompt("Enter marks from 0-40"));

function printGrade(score) {

  if (score > 35 && score <= 40) console.log(`A grade with number ${score}`);

  else if (score > 30 && score <= 35)

    console.log(`B grade with number ${score}`);

  else if (score > 25 && score <= 30)

    console.log(`C grade with Number ${score}`);

  else if (score > 20 && score <= 25)

    console.log(`E grade with Number ${score}`);

  else if (score <= 0 && score <= 20)

    console.log(`F grade with Number ${score}`);

}

printGrade(num);

**p15**

function getLetter(s) {

  let letter;

  switch (s[0]) {

    case "a" || "e" || "o" || "i" || "u":

      letter = "A";

      break;

    case "b" || "c" || "d" || "f" || "g":

      letter = "B";

      break;

    case "h" || "j" || "k" || "l" || "m":

      letter = "C";

      break;

    case "z" ||

      "n" ||

      "p" ||

      "q" ||

      "r" ||

      "s" ||

      "t" ||

      "v" ||

      "w" ||

      "x" ||

      "y":

      letter = "D";

  }

  return letter;

}

var arr = "ahdshjdas";

getLetter(arr);

console.log(`Output is: ${getLetter(arr)}`);

**p16**

function modifyArray(nums) {

  return (nums || []).map((num) => num \* (num % 2 === 0 ? 2 : 3));

}

let a1 = [0, -8, 7, 10, 5, -9];

modifyArray(a1);

**p17**

var num1 = parseInt(prompt("Enter first Number"));

var num2 = parseInt(prompt("Enter 2nd number"));

var op = prompt("Enter Operator (+,-,\*,/)");

function add(num1, num2) {

  let a = num1 + num2;

  console.log(`Addition of ${num1} and ${num2} is ${a}`);

}

function sub(num1, num2) {

  let a = num1 - num2;

  console.log(`Substraction of ${num1} and ${num2} is ${a}`);

}

function mul(num1, num2) {

  let a = num1 \* num2;

  console.log(`Multiplication of ${num1} and ${num2} is ${a}`);

}

function div(num1, num2) {

  let a = num1 / num2;

  console.log(`Division of ${num1} and ${num2} is ${a}`);

}

function operation(op) {

  if (op === "+") add(num1, num2);

  else if (op === "-") sub(num1, num2);

  else if (op === "\*") mul(num1, num2);

  else if (op === "/") div(num1, num2);

  else console.log("wrong operator");

}

operation(op);

**p18**

var num = [];

for (let i = 0; i < 5; i++) {

  num[i] = parseFloat(prompt("Enter 5 numbers in an array"));

}

//max element

for (let i = 0; i < 5; i++) {

  if (num[0] < num[i]) {

    num[0] = num[i];

  }

}

console.log(`The maximum element of an array is ${num[0]}`);

var num = [];

for (let i = 0; i < 5; i++) {

  num[i] = parseFloat(prompt("Enter 5 numbers in an array"));

}

//mix element

for (let i = 0; i < 5; i++) {

  if (num[0] > num[i]) {

    num[0] = num[i];

  }

}

console.log(`The smallest element of an array is ${num[0]}`);

**p19**

var arr = [];

arr[0] = "ASIF";

arr[1] = "SHOAIB";

arr[2] = "SHAUR";

arr[3] = "BILALA";

arr[4] = "WAJAHAT";

console.log(arr.join());

arr.splice(2, 0, "HAMZA"); //ADDING ELEMENT IN SECOND INDEX

console.log(arr.join());

**p20**

function positiveNegativeZero(arr) {

  let len = arr.length;

  let positiveCount = 0;

  let negativeCount = 0;

  let zeroCount = 0;

  for (let i = 0; i < len; i++) {

    if (arr[i] > 0) {

      positiveCount++;

    } else if (arr[i] < 0) {

      negativeCount++;

    } else if (arr[i] == 0) {

      zeroCount++;

    }

  }

  let x = (positiveCount / len).toFixed(4); //upto 4 decimal

  let y = (negativeCount / len).toFixed(4);

  let z = (zeroCount / len).toFixed(4);

  console.log(`Positive Count = ${x}`);

  console.log(`Negative Count = ${y}`);

  console.log(`Zero Count = ${z}`);

}

let a1 = [0, -8, 7, 10, 5, -9];

positiveNegativeZero(a1);