$(document).keypress(function(event){

var x =(String.fromCharCode(event.which));

//console.log(x);

if (x=='.'||x=='0'||x=='1'||x=='2'||x=='3'||x=='4'||x=='5'||x=='6'||x=='7'||x=='8'||x=='9'){

numberBtns(x);

}

if (x=='+'){

add();

}

if (x=='-'){

subtract();

}

if (x=='/'){

divide();

}

if (x=='\*'){

multiply();

}

if (x=='='||event.keyCode==13){

equals();

}

if (x=='p'||x=='P'){

piBtn();

}

if (x=='a'||x=='A'){

ac();

}

if (x=='s'||x=='S'){

sin();

}

if (x=='c'||x=='C'){

cos();

}

if (x=='t'||x=='T'){

tan();

}

if (x=='e'||x=='E'){

ce();

}

if (x=='d'||x=='D'){

var check=document.querySelector("input[type='checkbox']");

if (check.checked==true){

check.checked=false;

}

else if (check.checked==false){

check.checked=true;

}

toggle();

}

if (x=='i'||x=='I'){

inv();

}

if (x=='r'||x=='R'){

root();

}

if (x=='x'||x=='X'){

sqr();

}

if (x=='m'||x=='M'){

plusMinus();

}

});

var deg=0;

var operator1=0;

var tempOp='0';

var mathFunc=0;

var oldMathFunc=0;

var blackFunc=0;

var blueFunc=0;

var dotExists=false;

function addNum(x){

var display=document.getElementById("calcDisplay2").textContent;

if (display.length==12) flashMaxDigits();

if (tempOp!='0' && display.length<12){

if (x=="." && dotExists==false){

dotExists=true;

tempOp=tempOp+x;

}

if (x!=="."){

tempOp=tempOp+x;

}

}

if (tempOp=='0'){

if (x=="." && dotExists==false){

dotExists=true;

x='0.';

tempOp=x;

}

if (x!=="."){

tempOp=x;

}

}

console.log(dotExists);

$('#calcDisplay').text(tempOp);

$('#calcDisplay2').text(tempOp);

}

function add(){

mathFunctions(1);

}

function subtract(){

mathFunctions(2);

}

function multiply(){

mathFunctions(3);

}

function divide(){

mathFunctions(4);

}

function equals(){

mathFunctions(5);

}

function getInput(){

return document.getElementById("calcDisplay2").textContent;

//var plusMin=document.getElementById("plusMin").textContent;

// if (plusMin=='-'){

// input=input\*(-1);

// }

// $('#plusMin').text('');

// return input;

}

function mathFunctions(x){

dotExists=false;

blueFunc=1;

var result;

var input;

if (oldMathFunc==0&&x!=5){

operator1=getInput();

oldMathFunc=x;

}

else if (oldMathFunc==0&&x==5){

operator1=document.getElementById('calcDisplay').innerHTML;

$('#calcDisplay').text(operator1);

operator1=document.getElementById('calcDisplay2').innerHTML;

}

else {

input=getInput();

input=parseFloat(input);

operator1=parseFloat(operator1);

if (x!=5){

oldMathFunc=x;

}

finalMath(input,x);

if (x==5){

finalMath(input,oldMathFunc);

oldMathFunc=0;

}

}

result=operator1;

$('#calcDisplay2').text(result);

result=formatDisplay(result);

input=sciNotation(result);

$('#calcDisplay').text(input);

tempOp='0';

}

function finalMath(op2,math){

if (math==1){

operator1=operator1+op2;

}

if (math==2){

operator1=operator1-op2;

}

if (math==3){

operator1=operator1\*op2;

}

if (math==4){

operator1=operator1/op2;

}

}

function ac(){

var check=document.querySelector("input[type='checkbox']");

if (check.checked==true){

check.checked=false;

}

deg=0;

sciDisplay=0;

blueFunc=0;

mathFunc=0;

oldMathFunc=0;

ce();

}

function ce(){

dotExists=false;

blackFunc=0;

if (blueFunc==0){

operator1=0;

}

plusMinusExists=false;

$('#calcDisplay').text(0);

$('#calcDisplay2').text(0);

$('#maxDigits').text('');

$('#plusMin').text('');

$('#overFlow').text('');

tempOp='0';

}

function checkBlackFunc(){

if (blackFunc==1 || blueFunc==1){

$('#calcDisplay').text('0');

$('#calcDisplay2').text('0');

$('#overFlow').text('');

$('#plusMin').text('');

blackFunc=0;

blueFunc=0;

}

}

function numberBtns(x){

checkBlackFunc();

addNum(x);

}

function nine(){

numberBtns('9');

}

function eight(){

numberBtns('8');

}

function seven(){

numberBtns('7');

}

function six(){

numberBtns('6');

}

function five(){

numberBtns('5');

}

function four(){

numberBtns('4');

}

function three(){

numberBtns('3');

}

function two(){

numberBtns('2');

}

function one(){

numberBtns('1');

}

function zero(){

numberBtns('0');

}

function dot(){

numberBtns('.');

}

function plusMinus(){

var pM=document.getElementById('plusMin').innerHTML;

var disp=document.getElementById('calcDisplay').innerHTML;

var disp2=document.getElementById('calcDisplay2').innerHTML;

disp2=disp2\*(-1);

$('#calcDisplay2').text(disp2);

if (pM==''&&disp!=0){

$('#plusMin').text('-');

}

else {

$('#plusMin').text('');

}

}

function sciNotation(result){

var x;

if (result=='Infinity') return '∞ infinity'

if (isNaN(result)) return '⚠ imaginary';

if (result%1==0&&result.toString().length<12)return result;

var answer= result.toExponential();

var stringAnswer=[];

stringAnswer=answer.split('e');

var exponent=stringAnswer[1];

var sign=exponent.slice(0,1);

exponent=exponent.slice(1,3000);

stringAnswer[1]='e '+stringAnswer[1];

if (exponent=='0'){

$('#overFlow').text('');

}

else {

$('#overFlow').text(stringAnswer[1]);

}

stringAnswer=parseFloat(stringAnswer[0],10);

stringAnswer=stringAnswer.toFixed(8);

var lengthStr=stringAnswer.length-1;

var newStringAnswer=stringAnswer;

for (i=lengthStr;i>0;i--){

if (stringAnswer[i]=='0'){

newStringAnswer = stringAnswer.slice(0, -1);

}

else if (stringAnswer[i]=='.'){

newStringAnswer = stringAnswer.slice(0, -1);

i=-1;

}

else if (stringAnswer[i]!='0'&&stringAnswer[i]!='.'){

i=-1;

}

stringAnswer=newStringAnswer;

}

var final=simplify(stringAnswer,sign,exponent);

return final;

}

function simplify(stringAnswer,sign,exponent){

if (stringAnswer==10&&sign=='-'&&exponent==1){

stringAnswer=stringAnswer/10;

$('#overFlow').text('');

}

// above is a quick fix for an annoying display issue, tan 45 deg

//

// future function to simplify output - i.e. tan45degree = 10e-1

// which is 1

// stringAnswer, sign, exponent are the only things required

// before stringAnswer is returned, $('#overFlow).text(NEWVALUE);

return stringAnswer;

}

function trigFunctions(x){

dotExists=false;

blackFunc=1;

if (x==1){

$('#plusMin').text('');

var input=Math.PI;

var result=input;

}

if (x!=1){

var input=getInput();

}

if (x==2){

input=checkDeg(input);

var result=Math.tan(input);

}

if (x==3){

input=checkDeg(input);

var result=Math.sin(input);

}

if (x==4){

input=checkDeg(input);

var result=Math.cos(input);

}

if (x==5){

var result=1/input;

}

if (x==6){

var result=(input\*input);

}

if (x==7){

var result=Math.sqrt(input);

}

//operator1=result+operator1;

//result=operator1;

$('#calcDisplay2').text(result);

result=formatDisplay(result);

input=sciNotation(result);

$('#calcDisplay').text(input);

tempOp='0';

}

function piBtn(){

trigFunctions(1);

}

function tan(){

trigFunctions(2);

}

function sin(){

trigFunctions(3);

}

function cos(){

trigFunctions(4);

}

function inv(){

trigFunctions(5);

}

function sqr(){

trigFunctions(6);

}

function root(){

trigFunctions(7);

}

function flashMaxDigits(){

$('#maxDigits').text('MAX LENGTH, 12');

$('#maxDigits').fadeOut(500);

$('#maxDigits').fadeIn(500);

$('#maxDigits').fadeOut(500);

$('#maxDigits').fadeIn(500);

$('#maxDigits').fadeOut(500);

$('#maxDigits').fadeIn(500);

$('#maxDigits').fadeOut(500);

$('#maxDigits').fadeIn(500);

$('#maxDigits').fadeOut(500);

}

function formatDisplay(x){

if (x<0){

x=x\*(-1);

$('#plusMin').text('-');

}

return x;

}

function checkDeg(input){

if (deg==1) {

return input;

} else {

return (input\*(Math.PI/180));

}

}

function toggle(){

if (deg==0){

deg+=1;

}

else{

deg-=1;

}

}

//from https://www.w3schools.com/howto/howto\_css\_modals.asp//

// Get the modal

var modal = document.getElementById('myModal');

// Get the button that opens the modal

var btn = document.getElementById("myBtn");

// Get the <span> element that closes the modal

var modal2 = document.getElementById('myModal2');

// Get the button that opens the modal

var btn2 = document.getElementById("myBtn2");

// Get the <span> element that closes the modal

var span1 = document.getElementsByClassName("close1")[0];

var span2 = document.getElementsByClassName("close2")[0];

// When the user clicks on the button, open the modal

btn.onclick = function() {

modal.style.display = "block";

}

btn2.onclick = function() {

modal2.style.display = "block";

}

// When the user clicks on <span> (x), close the modal

span1.onclick = function() {

modal.style.display = "none";

}

span2.onclick = function() {

modal2.style.display = "none";

}

// When the user clicks anywhere outside of the modal, close it

window.onclick = function(event) {

if (event.target == modal || event.target == modal2) {

modal.style.display = "none";

modal2.style.display = "none";

}

}