```
//initalize calc screen strings
var calcInput = "";
var calcOutput = "";
//initialize calculating lists
var num = [0,1,2,3,4,5,6,7,8,9,"."];
var operators = ["+","×","−","/","^"];

//updates the calc screen whenever an input is received
function updateScreen() {
  setText("inputBox", calcInput);
  setText("outputBox",calcOutput);
}

//number buttons
onEvent("zeroButton", "click", function( ) {
  calcInput = calcInput + "0";
  updateScreen();
});

onEvent("oneButton", "click", function( ) {
  calcInput = calcInput + "1";
  updateScreen();
});

onEvent("twoButton", "click", function( ) {
  calcInput = calcInput + "2";
  updateScreen();
});

onEvent("threeButton", "click", function( ) {
  calcInput = calcInput + "3";
  updateScreen();
});

onEvent("fourButton", "click", function( ) {
  calcInput = calcInput + "4";
  updateScreen();
});

onEvent("fiveButton", "click", function( ) {
  calcInput = calcInput + "5";
  updateScreen();
});

onEvent("sixButton", "click", function( ) {
  calcInput = calcInput + "6";
  updateScreen();
});

onEvent("sevenButton", "click", function( ) {
  calcInput = calcInput + "7";
  updateScreen();
});

onEvent("eightButton", "click", function( ) {
  calcInput = calcInput + "8";
  updateScreen();
});
```

```
onEvent("nineButton", "click", function( ) {
  calcInput = calcInput + "9";
  updateScreen();
});

onEvent("decimalButton", "click", function( ) {
  calcInput = calcInput + ".";
  updateScreen();
});

//operator buttons
onEvent("divideButton", "click", function( ) {
  calcInput = calcInput + "/";
  updateScreen();
});

onEvent("multiplyButton", "click", function( ) {
  calcInput = calcInput + "×";
  updateScreen();
});

onEvent("subtractButton", "click", function( ) {
  calcInput = calcInput + "−";
  updateScreen();
});

onEvent("addButton", "click", function( ) {
  calcInput = calcInput + "+";
  updateScreen();
});

onEvent("exponentButton", "click", function( ) {
  calcInput = calcInput + "^";
  updateScreen();
});

onEvent("equalButton", "click", function( ) {
  calcOutput = "=" + organize(calcInput);
  updateScreen();
  calcInput = "";
  calcOutput = "";
});

//miscellaneous buttons
onEvent("clearButton", "click", function( ) {
  calcInput = "";
  calcOutput = "";
  updateScreen();
});

onEvent("deleteButton", "click", function( ) {
  calcInput = calcInput.substring(0,calcInput.length - 1);
  updateScreen();
});

onEvent("negativeButton", "click", function( ) {
  calcInput = calcInput + "⁻";
  updateScreen();
});
```

```
//organizes the inputted string into separate elements to calculate the answer to the expression
function organize(equation) {
  var ogEquation = equation;
  var eqnList = [];
  var index = 0;
  var ans;
  for (var a = 1; a <= equation.length+1; a++) {
    for (var b = 0; b < num.length; b++) {
      if (equation.substring(index,a).includes(num[b])) {
        if (!(equation.substring(a,a+1) == "0" || equation.substring(a,a+1) == "1" || equation.substring(a,a+1) == "2"
        || equation.substring(a,a+1) == "3" || equation.substring(a,a+1) == "4" || equation.substring(a,a+1) == "5"
        || equation.substring(a,a+1) == "6" || equation.substring(a,a+1) == "7" || equation.substring(a,a+1) == "8"
        || equation.substring(a,a+1) == "9" || equation.substring(a,a+1) == "." || equation.substring(a,a+1) == "-")
        && equation.substring(index,a) != "") {
          appendItem(eqnList,ogEquation.substring(index,a));
          index = a;
        }
      } else if (equation.substring(index,a).includes(operators[b]) &&
!equation.substring(a,a+1).includes(operators[b])) {
          appendItem(eqnList,ogEquation.substring(index,a));
          index = a;
      }
    }
  }
  //if there was only 1 number as an input,
  //the answer is set as that one number
  if (eqnList.length == 1) {
    ans = eqnList[0];
    return ans;
  }
  //converts numbers from strings to integers
  for (var c = 0; c < eqnList.length; c++) {
    var item = eqnList[c];
    var temp;
    for (var d = 0; d < num.length-1; d++) {
      //positive number strings
      if (item.substring(0,1) == (num[d])) {
        temp = item*1;
        removeItem(eqnList,c);
        insertItem(eqnList,c,temp);
      //negative number strings
      } else if (item.substring(0,1) == "-") {
        temp = item.substring(1,item.length)*1;
        temp = 0 - temp;
        removeItem(eqnList,c);
        insertItem(eqnList,c,temp);
      }
    }
  }
  ans = calculate(eqnList,0,eqnList.length);
  if (ans == "Infinity") {
    ans = "Number too large";
  }
  return ans;
}

function calculate(equationList,startingIndex,endingIndex) {
```

```
var calcAns;
for (var e = startingIndex; e < endingIndex; e++) {
  if (equationList[e] == "^") {
      calcAns = Math.pow(equationList[e-1],equationList[e+1]);
    for (var remE = 0; remE < 3; remE++) {
      removeItem(equationList,e-1);
    }
    insertItem(equationList,e-1,calcAns);
    e = 0;
  }
}
for (var md = startingIndex; md < endingIndex; md++) {
  if (equationList[md] == "×") {
    calcAns = (equationList[md-1])*(equationList[md+1]);
    for (var rem1Md = 0; rem1Md < 3; rem1Md++) {
      removeItem(equationList,md-1);
    }
    insertItem(equationList,md-1,calcAns);
    md = 0;
  } else if (equationList[md] == "/") {
    calcAns = (equationList[md-1])/(equationList[md+1]);
    for (var rem2Md = 0; rem2Md < 3; rem2Md++) {
      removeItem(equationList,md-1);
    }
    insertItem(equationList,md-1,calcAns);
    md = 0;
  }
}
for (var as = startingIndex; as < endingIndex; as++) {
  if (equationList[as] == "+") {
    calcAns = (equationList[as-1]) + (equationList[as+1]);
    for (var rem1As = 0; rem1As < 3; rem1As++) {
      removeItem(equationList,as-1);
    }
    insertItem(equationList,as-1,calcAns);
    as = 0;
  } else if (equationList[as] == "–") {
    calcAns = (equationList[as-1]) - (equationList[as+1]);
    for (var rem2As = 0; rem2As < 3; rem2As++) {
      removeItem(equationList,as-1);
    }
    insertItem(equationList,as-1,calcAns);
    as = 0;
  }
}
calcAns = Math.round(calcAns*1000000)/1000000;
return calcAns;
}
```