

**KULLIYYAH OF INFORMATION AND COMMUNICATION TECHNOLOGY**

**CSC 2104 |**

**Section 1**

**REPORT**

**Group: GiveMe**

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Introduction

Nowadays, mostly all of the people want to have a medium to calculate their anything they desire. We have made a calculator to help people do their calculation very easy. It is built in HMTL,CSS and JavaScript language. In this calculator we have functions like, arithmetic functions, trigonometric functions, power, and logarithm functions, and some important define value like PI, E ….

Algorithms

1- How many class and id are there and what are their functionality?

We are making use of the JavaScript’s inbuilt functions wherever possible like cos (), sin (), tan (),sqrt(), log(), etc.,. These functions belong to the Math object and hence we access them using it like this “*Math.cos*()”. And in the display of the calculator, when any of these operations is clicked, it displays the function along with the Math object like this “Math. Function()”.

The functions used in JavaScript are as follow:

1-function openpara (val) and closepara(valval) for oppening and closing parenthesis , by a variable Flag checks opening and closing parenthesis to avoid errors.

2-backspace(calc) which back warding one one space by pressing the button called (<-)

3-Resetfunction(calc), this function reset all you have done before , you may start again.

4- all the trigonometric functions (cos\_function(),acos\_function(),sin\_function(),asin\_function(),tan\_function(),atan\_function(),

5- And hyperbolic functions like (sinh\_function(),cosh\_function(),tanh\_function())

6- logarithm functions such as(log\_function(),ln\_function())

7- power functions like (power\_function(x), cube\_function(),sqrt\_function())

8-exp\_function() , function returns ex, where x is the argument, and e is [Euler's number (also known as Napier's constant)](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Math/E), the base of the natural logarithms.

9-fact(x), this function returns the factorial of a number.

evaluation(calc), this function is for the evaluation of the result .

CSS file

Now that the important part of our calculator is over, it is all up to css to make it look beautiful.in the css we have used some classes and id to give some beautification to our calculator.

**1- ids in css**

-#heading, this the id for the text above the calculator

-form\_wrapper, this id is for the ... whole body of the calculator

-#formone, padding for the top of the calculator

-#display, this id is for the specifications of the text field

2- classes in css

-.button, this is the class which contains the specifications of buttons on calculator

-.number, this class is for the number in the buttons

-.number, this class is for the number in the buttons

-.opps, this class is for the features of the text inside the buttons

-.three, this class is for the specifications of the three buttons(c,<-,=)

-three:hover, this (hover ) for the action

HTML PART

The javascript and css files are liked to the HTML FILE.

All the functions will be called by pressing the buttons

Codes

|  |  |
| --- | --- |
|  |  |
|  | <!DOCTYPE html> |
|  | <html> |
|  | <head> |
|  | <script Langualge = "javaScript"> |
|  |  |
|  | flag = 0; |
|  | function openpara(val) |
|  | { |
|  | calc.display.value+=val; |
|  | flag+=1; |
|  | } |
|  | function closepara(valval) |
|  | { |
|  | calc.display.value+=valval; |
|  | flag-=1; |
|  | } |
|  | function backspace(calc) |
|  | { |
|  | var size = calc.display.value.length; |
|  | calc.display.value=calc.display.value.substring(0,size-1); |
|  | } |
|  | function Resetfunction(calc) |
|  | { |
|  | calc.display.value=""; |
|  | flag=0; |
|  | } |
|  | function cos\_function() |
|  | { |
|  | flag+=1; |
|  | calc.display.value+='Math.cos('; |
|  | } |
|  | function sin\_function() |
|  | { |
|  | flag+=1; |
|  | calc.display.value+='Math.sin('; |
|  | } |
|  | function tan\_function() |
|  | { |
|  | flag+=1; |
|  | calc.display.value+='Math.tan('; |
|  | } |
|  | function log\_function() |
|  | { |
|  | flag+=1; |
|  | calc.display.value+='Math.log('; |
|  | } |
|  | function sqrt\_function() |
|  | { |
|  | flag+=1; |
|  | calc.display.value+='Math.sqrt('; |
|  | } |
|  | function exp\_function() |
|  | { |
|  | flag+=1; |
|  | calc.display.value+='Math.exp('; |
|  | } |
|  | function fact(x) |
|  | { |
|  | factvar=1; |
|  | for (i=1;i<=x;i++) |
|  | { |
|  | factvar=factvar\*i; |
|  | } |
|  | return factvar; |
|  | } |
|  | function fact\_function(x) |
|  | { |
|  | flag+=1; |
|  | calc.display.value+='fact('; |
|  | } |
|  | function power\_function(x) |
|  | { |
|  | flag+=1; |
|  | calc.display.value+='Math.pow(x,y'; |
|  | } |
|  | function evaluation(calc) |
|  | { |
|  | n = calc.display.value; |
|  | var size = calc.display.value.length; |
|  | var lastchar = calc.display.value.charAt(size) |
|  | if(isNaN(lastchar) && lastchar!=")" && lastchar!="!") {calc.display.value="syntax error";} |
|  | else if(flag!=0){calc.display.value="error:paranthesis";} |
|  | else { |
|  | result=eval(n); |
|  | calc.display.value=result;} |
|  | } |
|  | </script> |
|  | <style> |
|  | \*{ |
|  | padding:0; |
|  | margin:0; |
|  | } |
|  | body { |
|  | text-align:center; |
|  | background-color:brown; |
|  | } |
|  | #heading { |
|  | margin-top:10px; |
|  | } |
|  | #form\_wrapper { |
|  | width:600px; |
|  | height:540px; |
|  |  |
|  | margin:30px auto auto 420px; |
|  | background-color:red; |
|  | text-align:center; |
|  | border-radius:10px; |
|  | border-right:2px groove #333; |
|  | box-shadow:4px 4px 2px #666666; |
|  | } |
|  | #formone{ |
|  | padding-top:25px; |
|  | } |
|  | #display { |
|  | width:553px; |
|  | height:60px; |
|  | font-size:30px; |
|  | color:balck; |
|  | margin:4px; |
|  | border:2px inset black; |
|  | border-bottom:1px inset #FFF; |
|  | border-right:1px inset #FFF; |
|  | background-color:#D5F192; |
|  | } |
|  | .button { |
|  | width:60px; |
|  | height:60px; |
|  | margin:1px; |
|  | } |
|  |  |
|  | #btn{ |
|  | font-size:25px; |
|  | padding:5px; |
|  | height:70px; |
|  | width:90px; |
|  | background-color:white; |
|  |  |
|  |  |
|  | } |
|  |  |
|  | #btn\_f{ |
|  | height:70px; |
|  | width:90px; |
|  | font-size:20px; |
|  | padding:5px; |
|  | margin-left:auto; |
|  | margin-right:auto; |
|  | background-color:yellow; |
|  | } |
|  |  |
|  | #result{ |
|  | height:60px; |
|  | width:453px; |
|  | font-size:25px; |
|  | padding:5px; |
|  |  |
|  |  |
|  | } |
|  | </style> |
|  | </head> |
|  | <body> |
|  | <div id="big\_wrapper"> |
|  | <h1 id="heading">SCIENTIFIC CALCULATOR</h1> |
|  | <div id="form\_wrapper"> |
|  | <form id="formone" name="calc"> |
|  | <input id="display" type="text" name="display” value=" disabled contenteditable="false" > |
|  | <br> |
|  | <input id="btn" type="button" value="6" onClick="calc.display.value+=6"> |
|  | <input id="btn" type="button" value="7" onClick="calc.display.value+=7"> |
|  | <input id="btn" type="button" value="8" onClick="calc.display.value+=8"> |
|  | <input id="btn" type="button" value="9" onClick="calc.display.value+=9"> |
|  | <input id="btn" type="button" value="(" onClick="openpara(this.value)"> |
|  | <input id="btn" type="button" value=")" onClick="closepara(this.value)"> |
|  |  |
|  | <br> |
|  | <input id="btn" type="button" value="2" onClick="calc.display.value+=2"> |
|  | <input id="btn" type="button" value="3" onClick="calc.display.value+=3"> |
|  | <input id="btn" type="button" value="4" onClick="calc.display.value+=4"> |
|  | <input id="btn" type="button" value="5" onClick="calc.display.value+=5"> |
|  | <input id="btn" type="button" value="1" onClick="calc.display.value+=1"> |
|  | <input id="btn" type="button" value="0" onClick="calc.display.value+=0"> |
|  |  |
|  | <br> |
|  | <input id="btn" type="button" value="+" onClick="calc.display.value+='+'"> |
|  | <input id="btn" type="button" value="/" onClick="calc.display.value+='/'"> |
|  | <input id="btn" type="button" value="-" onClick="calc.display.value+='-'"> |
|  | <input id="btn" type="button" value="\*" onClick="calc.display.value+='\*'"> |
|  | <input id="btn" type="button" value="." onClick="calc.display.value+='.'"> |
|  | <input id="btn" type="button" value="%" onClick="calc.display.value+='%'"> |
|  |  |
|  |  |
|  |  |
|  | <br> |
|  | <input id="btn" type="button" value="sin" onClick="sin\_function()"> |
|  | <input id="btn" type="button" value="cos" onClick="cos\_function()"> |
|  | <input id="btn" type="button" value="tan" onClick="tan\_function()"> |
|  | <input id="btn" type="button" value="sqrt" onClick="sqrt\_function()"> |
|  | <input id="btn" type="button" value="n!" onClick="fact\_function()"> |
|  | <input id="btn" type="button" value="E" onClick="calc.display.value+=2.718"> |
|  |  |
|  | <br> |
|  | <input id="btn" type="button" value="log" onClick="log\_function()"> |
|  | <input id="btn" type="button" value="&#928" onClick="calc.display.value+=3.141"> |
|  | <input id="btn" type="button" value="x^y" onClick="power\_function()"> |
|  | <input id="btn" type="button" value="log2E" onClick="calc.display.value+=1.442"> |
|  | <input id="btn" type="button" value="log10E" onClick="calc.display.value+=0.434"> |
|  | <input id="btn" type="button" value="EXP" onClick="exp\_function"> |
|  |  |
|  |  |
|  | <br> |
|  | <input id="btn" type="button" value="," onClick="calc.display.value+=','"> |
|  | <input id="btn" type="button" value="LN2" onClick="calc.display.value+=0.693"> |
|  | <input id="btn" type="button" value="LN10" onClick="calc.display.value+=2.302"> |
|  | <input id="btn\_f" type="button" value="Clear" onClick="Resetfunction(this.form)"> |
|  | <input id="btn\_f" type="button" value="Back" onClick="backspace(this.form)"> |
|  | <input id="btn\_f" type="button" value="Enter" onClick="evaluation(this.form)"> |
|  | </center> |
|  | </form> |
|  | </div> |
|  | </div> |
|  | </body> |
|  | </html> |
|  |  |