

```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4
5 <meta charset="UTF-8">
6 <meta name="viewport" content="width=device-width, initial-scale=1.0">
7
8 <script src="../../Main/main.js"></script>
9 <link rel="stylesheet" href="../../Main/sidebar.css">
10
11 <style>
12 body{
13     text-align: center;
14     margin: 0;
15     background-image: url("cool.jpg");
16     background-size: cover;
17     background-repeat: no-repeat;
18 }
19 textarea{
20     text-align: center;
21 }
22 h1{
23     margin: 0;
24     padding-top: 21.44px;
25     padding-bottom: 21.44px;
26 }
27 </style>
28
29 <script>
30 , "use strict";
31
32 //When we call the function it creates many of the buttons on the page. This is so I can then
33 remove them later when I switch to the Vigenère portion of the site.
34 function caesarSite(){
35     document.querySelector("h1").innerHTML="Caesar Cipher Project"
36
37     document.querySelector("#keyDiv").innerHTML=""
38     const select=document.createElement("select")
39     select.id="key"
40     select.onChange=onChange
41     document.querySelector("#keyDiv").appendChild(select)
42
43     for (let i=1; i<=25; i++){
44         const option=document.createElement("OPTION");
45         option.innerHTML=i
46         option.value=i
47         document.querySelector("#key").appendChild(option);
48     }
49
50     document.querySelector("#bruteForceDiv").innerHTML=""
51     const button=document.createElement("input")
52     button.type="button"
53     button.value="Brute Force Attack"
54     button.id="bruteForceAttack"
55     button.onclick=bruteForceAttack
56     document.querySelector("#bruteForceDiv").appendChild(button)
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57     document.querySelector("#randomKeyDiv").innerHTML=""
58     const randomKeybutton=document.createElement("input")
59     randomKeybutton.type="button"
60     randomKeybutton.value="Random Key"
61     randomKeybutton.id="randomKey"
62     randomKeybutton.onclick=pickRandomKey
63     document.querySelector("#randomKeyDiv").appendChild(randomKeybutton)
64
65     onChange()
66 }
67
68 //This deletes some of the button on the caesar site and only displays the buttons needed for
the Vigenère site.
69 function vigenèreSite(){
70     document.querySelector("h1").innerHTML="Vigenère Cipher Project"
71
72     document.querySelector("#keyDiv").innerHTML=""
73     const textbox=document.createElement("input")
74     textbox.type="text"
75     textbox.id="key"
76     textbox.oninput=onChange
77     document.querySelector("#keyDiv").appendChild(textbox)
78
79     document.querySelector("#bruteForceDiv").innerHTML=""
80
81     document.querySelector("#randomKeyDiv").innerHTML=""
82
83     onChange()
84 }
85
86 //It takes in a key and a message as parameters. It automatically gets a key and message
value if no paramters are inputed. It then splits the message. Then for each character in the
message
87 //it checks if it's between a-z then it makes it lower case then charcodes it. Then based on
wether it's on encrypt or decrypt it adds or subtracts the key value. Once it does that it
then
88 //makes it to normal charcters again. Then I add it do the ecncrypted message which will be
returned.
89 function encryptOrDecrypt(key=document.querySelector("#key").value,
message=document.querySelector("#messageHolder").value){
90     message=message.split("")
91
92     let encryptedMessage=""
93     for (let i=0; i<message.length; i++){
94         if ((/[a-zA-Z]/).test(message[i])){
95             message[i]=message[i].toLowerCase()
96             message[i]=message[i].charCodeAt()
97             if (document.querySelector("#option").value=="encrypt"){
98                 message[i]=parseInt(message[i])+parseInt(key)
99                 if (message[i]>122){
100                     message[i]=message[i]-26
101                 }
102                 message[i]=String.fromCharCode(message[i])
103                 message[i]=message[i].toUpperCase()
104             }
105             else{
106                 message[i]=parseInt(message[i])-parseInt(key)
107                 if (message[i]<97){
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108         message[i]=message[i]+26
109     }
110     message[i]=String.fromCharCode(message[i])
111 }
112 }
113 encryptedMessage+=message[i]
114 }
115
116 return encryptedMessage
117 }
118
119 //It takes the character of each key and changes it to a number between 0-25 then uses encrypt
function.
120 function vigenère(key,message=document.querySelector("#messageHolder").value){
121     let encryptedMessage=""
122
123     //checks for whitespace
124     if (/\\S/.test(key)){
125         message=message.split("")
126         key=key.split("")
127
128         for (let i=0; i<message.length; i++){
129             let encryptionKey=key[i%key.length]
130             if (/\\[a-zA-Z]/.test(encryptionKey)){
131                 encryptionKey=encryptionKey.toLowerCase()
132                 encryptionKey=encryptionKey.charCodeAt()
133                 encryptionKey-=97
134             }
135             encryptedMessage+=encryptOrDecrypt(encryptionKey,message[i])
136         }
137     }
138     return encryptedMessage
139 }
140
141 //Everytime something changes the output gets changed
142 function onChange(){
143     //If there is a select then it is caesar
144     if (document.querySelector("#keyDiv select")!==null){
145         document.querySelector("#output").value=encryptOrDecrypt()
146     }
147     else{
148         document.querySelector("#output").value=vigenère(document.querySelector("#key").value)
149     }
150 }
151
152 //Picks a random key in the site.
153 function pickRandomKey(key){
154     const randomInteger=randomInt(1,25)
155     document.querySelector("#key").value=randomInteger
156     onChange()
157 }
158
159 //Shows the instructions
160 function instructions(){
161     if (document.querySelector("#keyDiv select")!==null){
162         if (document.getElementById("instructionsForCaesar").style.display=="none"){
163             document.getElementById("instructionsForCaesar").style.display="block"
```

```
164     }
165     else{
166         document.getElementById("instructionsForCaesar").style.display="none"
167     }
168 }
169 else{
170     if (document.getElementById("instructionsForVigenère").style.display=="none"){
171         document.getElementById("instructionsForVigenère").style.display="block"
172     }
173     else{
174         document.getElementById("instructionsForVigenère").style.display="none"
175     }
176 }
177 }
178
179 //Goes thought every single key to decrypt it.
180 function bruteForceAttack(){
181     let finalMessage=""
182     let decryptOrEncrypt=""
183     if (document.querySelector("#option").value=="encrypt"){
184         decryptOrEncrypt="Encrypt"
185     }
186     else{
187         decryptOrEncrypt="Decrypt"
188     }
189
190     finalMessage+=`${decryptOrEncrypt}ing ${document.querySelector("#messageHolder").value}
with Brute Force\n`
191     for (let i=1; i<26; i++){
192         finalMessage+=`Key ${i}: ${encryptOrDecrypt(i)}\n`
193     }
194     document.querySelector("#output").value=finalMessage
195 }
196
197
198
199 </script>
200
201 </head>
202
203 <!--onload='repsonsiveTextboxInPX("#output", convertVPToPX(100,
true));repsonsiveTextboxInPX("#messageHolder", convertVPToPX(7, true))'-->
204 <body onload="caesarSite()">
205 <div id="sidebar" class="sidebar" style="left: 0; z-index: 1; height: 100vh;">
206     <a href="#" class="closeButton" style="left: .75vw;" onclick="changeWidth('#sidebar',
'0%')">x</a>
207     <div class="content">
208         <a href="#" onclick="caesarSite()">Caesar Cipher</a><br>
209         <a href="#" onclick="vigenèreSite()">Vigenère Cipher</a><br>
210     </div>
211 </div>
212 <span onclick="changeWidth('#sidebar', '12.5%')" style="left: 0;position: absolute;"><span
class="sidebarButton">≡</span> Menu</span><br>
213
214 <h1>Caesar Cipher Project</h1>
215
216 <!--&#013; Use this for linebreaks? Or just do actual linebreaks in html.-->
217 <textarea name="textArea" placeholder="Type message to decrypt or encrypt." id="messageHolder"
```

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style="height: 10vh; width: 75vw;" cols="30" rows="10" oninput="onChange()"></textarea><br>
<br>
218
219 <select name="option" id="option" onchange="onChange()">
220     <option value="encrypt">Encrypt</option>
221     <option value="decrypt">Decrypt</option>
222 </select><br><br>
223
224 Key: <div id="keyDiv" style="display: inline;"></div><br><br>
225
226 <span id="randomKeyDiv"></span>
227 <input type="button" value="Instructions" id="buttonInstructions" onclick="instructions()">
228 <span id="bruteForceDiv">a</span>
229 <br><br>
230
231 <textarea id="output" style="height: 10vh; width: 75vw;" readonly></textarea>
232
233 <div id="instructionsForCaesar" style="display: none;">Write a message then press a key. Then
you get your caesar cipher output.</div>
234 <div id="instructionsForVigenère" style="display: none;">Write a message then write a key.
Then you get your vigenère cipher output.</div>
235
236 </body>
237
238 </html>
```