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Q.3

Happy Number A number is called happy if it leads to 1 after a sequence of steps where in each step number is replaced by sum of squares of its digit that is if we start with Happy Number and keep replacing it with digits square sum, we reach 1. Write a JavaScript code that takes the name from a text field and converts the name to its numerical value and on button click, check if the resultant number is a Happy Number and displays "You are a Happy Person" if the number is Happy or displays "Something is bothering you seem to look Sad" on

The numerical value of [A-Za-z] is [1-26]

HTML CODE:

```
<!doctype html>

<html>

<head>

<meta charset="utf-8">

<title>PAT-2</title>

<style>

#m1, #m2 {

background-color: #ffffff;

color: #000000;

}

</style>

<script>

function happyNum()

{

var nm = document.getElementById("i").value;

nm = nm.toLowerCase();

nm = nm.replace("a","1");

nm = nm.replace("b","2");
```

```
nm = nm.replace("c","3");
nm = nm.replace("d","4");
nm = nm.replace("e","5");
nm = nm.replace("f","6");
nm = nm.replace("g","7");
nm = nm.replace("h","8");
nm = nm.replace("i","9");
nm = nm.replace("j","10");
nm = nm.replace("k","11");
nm = nm.replace("l","12");
nm = nm.replace("m","13");
nm = nm.replace("n","14");
nm = nm.replace("o","15");
nm = nm.replace("p","16");
nm = nm.replace("q","17");
nm = nm.replace("r","18");
nm = nm.replace("s","19");
nm = nm.replace("t","20");
nm = nm.replace("u","21");
nm = nm.replace("v","22");
nm = nm.replace("w","23");
nm = nm.replace("x","24");
nm = nm.replace("y","25");
nm = nm.replace("z","26");
var arr = Array.from(nm);
var sum = 0;
for(var i=0; i<arr.length; i++)
{
```

```
    sum = sum+(arr[i]*arr[i]);
}
var s1 = 0;
while(sum>9)
{
    var a = sum%10;
    s1 = s1+a*a;
    sum = sum/10;
}
var s2 = 0;
while(s1>9)
{
    var a = s1%10;
    s2 = s+a*a;
    s1 = s1/10;
}
if(parseInt(s2)==1)
{
    document.getElementById("m2").innerHTML = "You are a Happy Person";
}
else
{
    document.getElementById("m2").innerHTML = "Something is bothering you seem
to look Sad";
}
}
</script>
</head>
```

```
<body bgcolor="pink">  
<center><h1>  
<mark id="m1"><b>Happy Number Check:</b><br><br>  
Enter Name:<br></mark>  
<input type="text" id="i"></input><br>  
<button onClick="happyNum();">Check</button><br><br>  
<mark id="m2"></mark>  
</h1></center>  
</body>  
</html>
```

OUTPUT SCREEN

