**Category:** Rev

**Challenge:** Pandemic in the Middle Earth

Writeup:

This is a windows executable too. As I usually do, dumped the strings with strings command and I saw something like that:

```
$80706354-b130-4d6f-948a-beb50ce6f12d
1.0.0.0
.NETFramework,Version=v4.6.1
FrameworkDisplayName
.NET Framework 4.6.10
+pandemic_in_the_me.Form1+<disableEnter>d__3
3System.Resources.Tools.StronglyTypedResourceBuilder
4.0.0.0
KMicrosoft.VisualStudio.Editors.SettingsDesigner.SettingsSingleFileGenerator
11.0.0.0
lSystem.Resources.ResourceReader, mscorlib, Version=4.0.0.0, Culture=neutral, PublicKeyToken=b77a5c561934e089#System.Resources.RuntimeResourceSet
hSystem.Drawing.Bitmap, System.Drawing, Version=4.0.0.0, Culture=neutral, PublicKeyToken=b03f5f7f11d50a3aPADPAD
QSystem.Drawing, Version=4.0.0.0, Culture=neutral, PublicKeyToken=b03f5f7f11d50a3a
System.Drawing.Bitmap
Data
```

this is a .NET executable. So, I can see the codes easily with dnSpy.

When I open it with dnSpy, I see the following code block.

```
// Token: 0x06000003 RID: 3 RVA: 0x0000206C File Offset: 0x0000026C
private void button1_Click(object sender, EventArgs e)
{
    string text = this.code.Text;
    string b = "6889 7225 4489 7056 4900 15129 5929 2704 13225 5625 9025 2304 7225
      7056 9025 4356 6241 11025 15625 ";
    string text2 = "";
    foreach (char c in text)
    {
        text2 = text2 + ((int)(c * c)).ToString() + " ";
    }
    if (text2 == b)
    {
        this.unmasked.Hide();
        this.masked.Show();
        this.angry.Text = "Congrats !!!";
        this.angry.Show();
        return;
    }
    this.disableEnter();
}
```

it takes the string in the textbox. Takes the square of each character in the string and adds it to a initial string. If the resulting string equals “6889 7225 4489 7056 4900 15129 5929 2704 13225 5625 9025 2304 7225 7056 9025 4356 6241 11025 15625 ” it shows the desired output.

If I reverse this process (with a python script) I can easily get the desired input, which is flag.

```
from math import *

a = "6889 7225 4489 7056 4900 15129 5929 2704 13225 5625 9025 2304 7225 7056 9025
 4356 6241 11025 15625 "
a = a.strip()

b = a.split(" ")

flag = ""

for c in b:
    x = int(c)
    y = sqrt(x)
    y = int(y)
    s = chr(y)
    flag += s

print(flag)

output : SUCTF{M4sK_0UT_BOi}
```