



**CALIFORNIA STATE SCIENCE FAIR  
2005 PROJECT SUMMARY**

<b>Name(s)</b> <b>Justin L. Stephens</b>	<b>Project Number</b> <b>S1222</b>
<b>Project Title</b> <b>Avencrypt</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of my project was to determine if a relatively effective encryption algorithm could be developed without the use of random numbers.</p> <p><b>Methods/Materials</b> I brainstormed three different methods data could be encrypted without random numbers. The three I came up with were rearrange the binary, add or subtract from the values of the data or a process I call reversion, where the binary of a user-supplied password is matched up with the binary of the data being encrypted, then whenever the bit of the password is one, the corresponding bit of the data being encrypted is reversed. I took these ideas, tested them on paper, then, if they worked, put them into code.</p> <p><b>Results</b> Rearranging the binary was too slow and wasn't very secure because it wasn't password protected. Adding or subtracting from the values of the data didn't even work on paper because I couldn't get it to decrypt correctly. Reversion worked was the method because it was relatively fast and secure.</p> <p><b>Conclusions/Discussion</b> To conclude, I found that it is possible to create an encryption algorithm that doesn't use random numbers.</p>	
<b>Summary Statement</b> My project, Avencrypt is my attempt to create a relatively effective encryption algorithm that does not use random or semi-random values.	
<b>Help Received</b> My computer teacher Mrs. Kidwell suggested password protection.	