CS 110: Project 1

Goal: This project is intended to help you synthesize the ideas behind if statements, loops, input, output, and variables (everything up to now in the class). You should hand in a single *.py* script file for each of the below problems. Please name and number the problems appropriately (something like *Project1_1_YourName.py*). Each should contain extensive comments in the style discussed in class How you do these problems is completely up to you, but you will be graded on style. You should minimize the amount of repeated code and use functions whenever possible to make the code easier to read and use. Make sure you follow ALL of the guidelines provided.

1. Create a simple Yahztee-ish dice game. The idea is that the user will roll four dice up to three times, choosing which dice to "hold" each round and which to re-roll. They receive a score as follows:

   – If all dice match, 50 points
   – If any three match, 35 points
   – If only two match, 10 points plus the sum of the dice
   – If no dice match, the sum of the dice

   The user plays the game twice, and their total score is the sum of each round's score. Display a running total for each round as the user is playing. So, an example round:

   – User rolls $2, 4, 5, 2$. They hold the 1st and 4th and are told they have a score of 23
   – User re-rolls 2nd and 3rd to get: $2, 6, 6, 2$. They now hold the 2nd and 3rd are are told they have a score of 26
   – User re-rolls the 1st and 4th again to get: $6, 6, 6, 1$. They have a final score of 35 for that round.

   The user would then play one more round, adding their 35 to whatever they receive in the 2nd round.

2. Use PyGame to display a reasonable approximation to the given national flag. You may use only basic shapes or text boxes, and only techniques that have been discussed in class (you can't import images). You should use the official flag for the given country. Each code should ask the user to input the horizontal size of the flag.The user should not be able to produce a flag so small that it is not recognizable or so large that it is off the screen. The code should then produce a PyGame window containing the flag using the correct vertical size for the given flag. In other words, everything you draw needs to have a dynamic size. The flags are assigned as follows (note that this list was randomly generated):

Name	**Flag**	**Name**	**Flag**
Avril Adams	Djibouti	Henry Brown	Panama
Nolan Hamel	Ghana	Andy Marchetti	Guyana
Sophia Nielsen	Chile	Ria Kapoor	Suriname
Aiden Kimrey	Georgia	Makenzie Jones	Macedonia
Sam Quan	Saint Lucia	Francisco Ebner	Bahrain
Himanshu Pallath	Puerto Rico	Adam Clements	Timor-Leste
Amelia Tennis-Shock	Syria	Brodee Clontz	Togo
Emma Feith	Cameroon	Alex Pruitt	Liberia