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| **AP CSP Python with CodeX**  **Mission 9 Assignment** | | **Name:** |
| **Getting Started** | | |
| In this project you will create a game spinner that shows a realistic spinning arrow when a button is pressed. Think of the applications! **During this lesson you will complete all the goals.** | | |
| **Mission 9: Game Spinner Objectives** | | |
| Complete Objective 1  The arrows list is already defined. You do not need to create it.  The instructions and CodeTrek give three ways to get a random arrow. Which way are you using in your code?  *Create the file and run the code. Use CodeTrek as needed.* |  | |
| Take the quiz. How did you do? Is there a concept you need to review? |  | |
| Complete Objective 2 Click on logical operators.  List the logical operators used by Python:  *Change the code to add an infinite loop and a logical operator with the button press. Use CodeTrek if needed.* |  | |
| Complete Objective 3  You have been using functions for quite awhile. CodeSpace introduces them in this mission. Click on functions to add it to your toolbox.  Give two other names for a function:  What does the keyword def mean?  *Complete the code. You should be able to do this objective on your own.* |  | |
| Complete Objective 4  Read ALL the information and take notes as needed.  Why don’t you use an infinite loop for the spin animation?  What line of code updates the index variable?  *Complete the code. Use CodeTrek if needed.* |  | |
| Take the quiz. How did you do? Is there a concept you need to review? |  | |
| Complete Objective 5  Click on simulation. This topic is part of the AP CSP curriculum.  What is a computer simulation?  Click on parameter and argument.  What are parameters and arguments used for?  *Complete the code. Use CodeTrek.* |  | |
| Complete Objective 6  Read ALL the information, and take notes as needed.  Click on local variables.  Give a fact you learned about local variables:  *Complete the code by changing the argument. Then use the debugger. Read the hint for help.*  The code will now throw an error. What is the value of **index** when the error occurs? |  | |
| Complete Objective 7  Read ALL the information and take notes as needed.  What is the difference between = and ==?  *Complete the code, using CodeTrek.*  What local variables are you using? |  | |
| Complete Objective 8  Read ALL the information and take notes as needed in the space provided.  *Complete the code by adding another variable. Can you do this on your own? Use CodeTrek as needed.* |  | |
| Go to the sandbox.  In the last lesson, you learned about modulo division, and you used it to modify a program to keep the index in range. This program also uses an index, and an if statement to keep the index in range.   * Use modulo division in the spin\_animation() function to keep the index in range. * Delete the if statement * Use modulo division to assign a value to index: index = loops % len(pics.ALL\_ARROWS)   Run the program and make sure there are no bugs before submitting. | | |
| Submit the ***Game\_Spinner*** program to the teacher. | | |