

Junior Knights Week #6 Python Homework: More For Loop, Turtle

Part A: Sum Squares (sumsq.py)

Write a program that asks the user to enter a positive integer n , and calculates the sum of the integers $1^2 + 2^2 + \dots + n^2$ and prints this total to the screen.

Sample Run

Enter a positive integer.

4

The sum of the first 4 squares is 30.

Part B: Finding the largest donation

Write a program that asks the user to enter how many donations they are collecting, then reads in the donations and outputs the value of the largest donation.

Sample Run

How many donations are you collecting?

2

How much is donation #1, in dollars?

25

How much is donation #2, in dollars?

50

The largest donation is \$50.

Part C: Text Parallelogram

Write a program that asks the user to enter two positive integers, the height and length of a parallelogram and prints a parallelogram of that size with stars to the screen.

Sample Run

What is the height of your parallelogram?

2

What is the length of your parallelogram?

6

Part D: 5 pointed star

Write a program that uses the turtle to print out a 5-pointed star. It's up to you whether or not you want to fill your star.

Part E: Random Walk

Write a program using the turtle that creates a random path. At each step, pick a random number of pixels to walk, followed by a random turn, anywhere in between 0 and 359 degrees. Allow the user to choose how many random steps the turtle will take. Adjust your program to allow the user to choose further parameters which direct the random walk. If this idea interests you, look up the term "random walk."