Python Assignment (MRA Service 3)

Out: 11-Feb-24, Due: 15-Feb-24
Mark : 10

Implement the following series in python.

$$\sum_{i=1}^{n} \frac{i^2}{5}$$

Now, let me introduce you to 3 house cats.

catA
- Personality Energetic
- Colors Red-brown
- Friendliness High

catB
- Personality Calm
- Colors British Blue
- Friendliness Medium

catC
- Personality Outgoing
- Colors Black
- Friendliness Low

Imagine, catA is sitting at point (A, B) on a XY-plane; where a, b can be any arbitrary number.

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A = $\sum_{i=1}^{a} \frac{i^2}{5}$ B = $\sum_{i=1}^{b} \frac{i^2}{5}$

Similarly, catB is sitting at another point (A, B) on a XY-plane; where a, b can be any arbitrary number.

A = $\sum_{i=1}^{a} \frac{i^2}{5}$ B = $\sum_{i=1}^{b} \frac{i^2}{5}$

And, catC is sitting at point (A, B) on a XY-plane; where a, b can be any arbitrary number.

A = $\sum_{i=1}^{a} \frac{i^2}{5}$ B = $\sum_{i=1}^{b} \frac{i^2}{5}$

Now, write a python program to identify the cat's initial arbitrary position using the instructions above. Now extend the program so that you can move the cat's position in any direction on the XY-plane with certain steps. Once all 3 cats are in your desired position, imagine there's a mouse at the origin. Now, declare the closet cat to the mouse as the WINNER.

*Use conditionals, loops, functions, classes. Program should be able to handle various test cases and many arbitrary user inputs.
*Clean and organized codes are appreciated.