

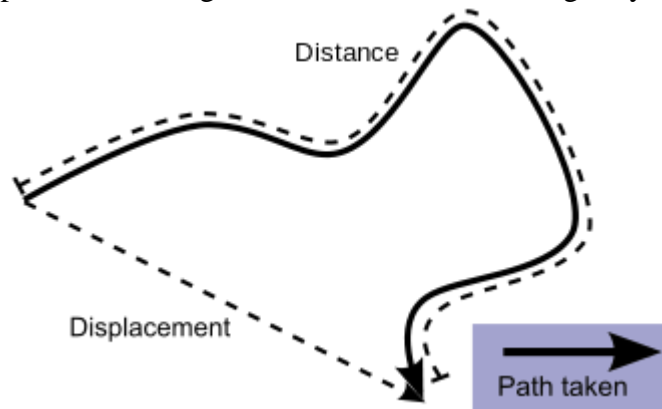
**Answer on Question #47449, Physics, Mechanics | Kinematics | Dynamics**

**Question:**

If a person jogs around a 400 meter track 4 times and starts and ends in the same place what is the displacement in meters (m) that the jogger has ran?

**Solution:**

A displacement is the shortest distance from the initial to the final position of a point P. Thus, it is the length of an imaginary straight path, typically distinct from the path actually travelled by P. A 'displacement vector' represents the length and direction of that imaginary straight path.



Displacement = Initial position – final position.

So in our case:

Displacement = 0 m. because initial position = to the final.

**Answer:** Displacement = 0 m