Celestial Ministries

DATA DETECTIVES

INTRODUCTION TO COMPUTER PROGRAMMING WITH PYTHON

JNB 11 ANIMATION OF MATHEMATICAL CURVES

WHAT WILL YOU LEARN IN TODAY'S LESSON

- What is an animation?
- How to control the speed of an animation
- What is the difference between linear and nonlinear?
- What type of shape is a sine curve?
- What is the shape of a cosine curve?
- What is a parametric curve?
- (in groups) How to make interesting parametric curves using sine and cosine.

WHAT IS AN ANIMATION?

5 points

An animation is a m _ _ _ _ created by showing a rapid sequence of still pictures (“frames”).

CONTROLLING THE SPEED OF AN ANIMATION?

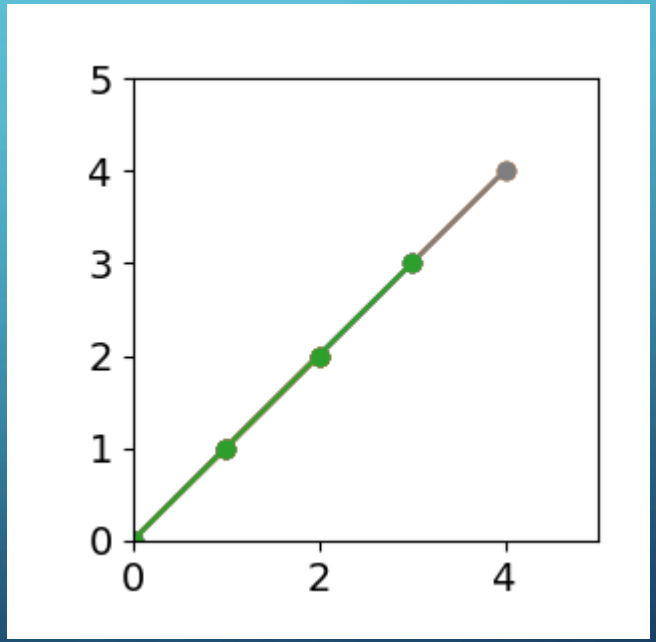
5 points

An animation will play in “slow motion” if you i_____ the time between each frame or picture.

WHAT IS THE DIFFERENCE BETWEEN LINEAR AND NONLINEAR?

5 points

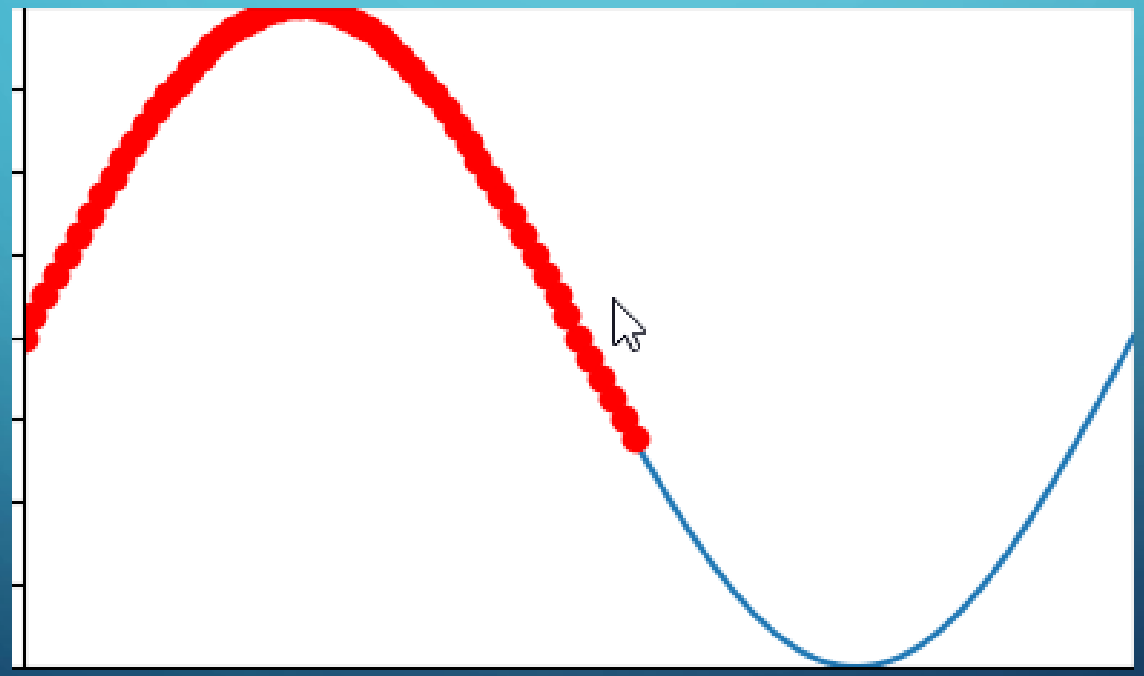
Linear means that points are arranged on a straight l _ _ _.



WHAT TYPE OF SHAPE IS A SINE CURVE?

5 points

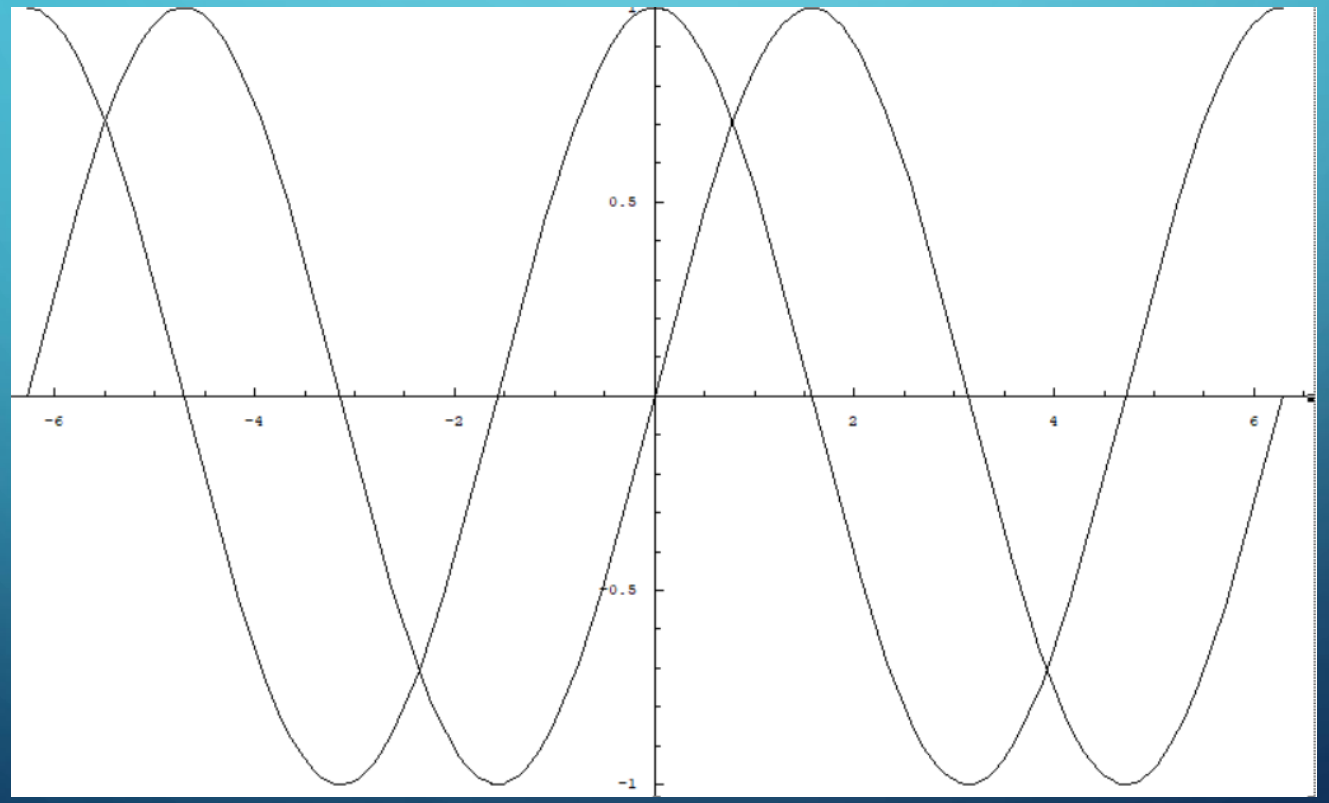
A sine curve is n _ _ - l _ _ _ _ _ _ .



WHAT IS THE SHAPE OF A COSINE CURVE?

5 points

A cosine curve has exactly the same shape as a sine curve, except that its position is s _____.



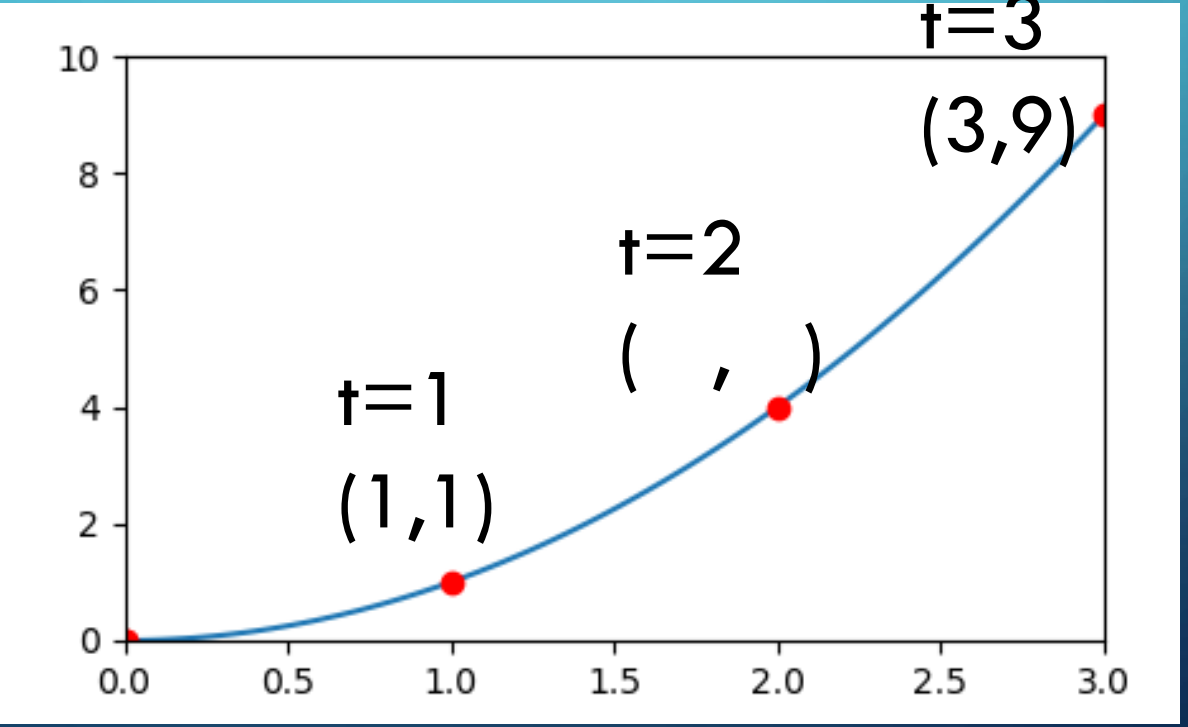
WHAT IS A PARAMETRIC CURVE?

5 points

A parametric curve gives a formula for the x and y position at time t. Where is the point when t=2?

$$x = t$$

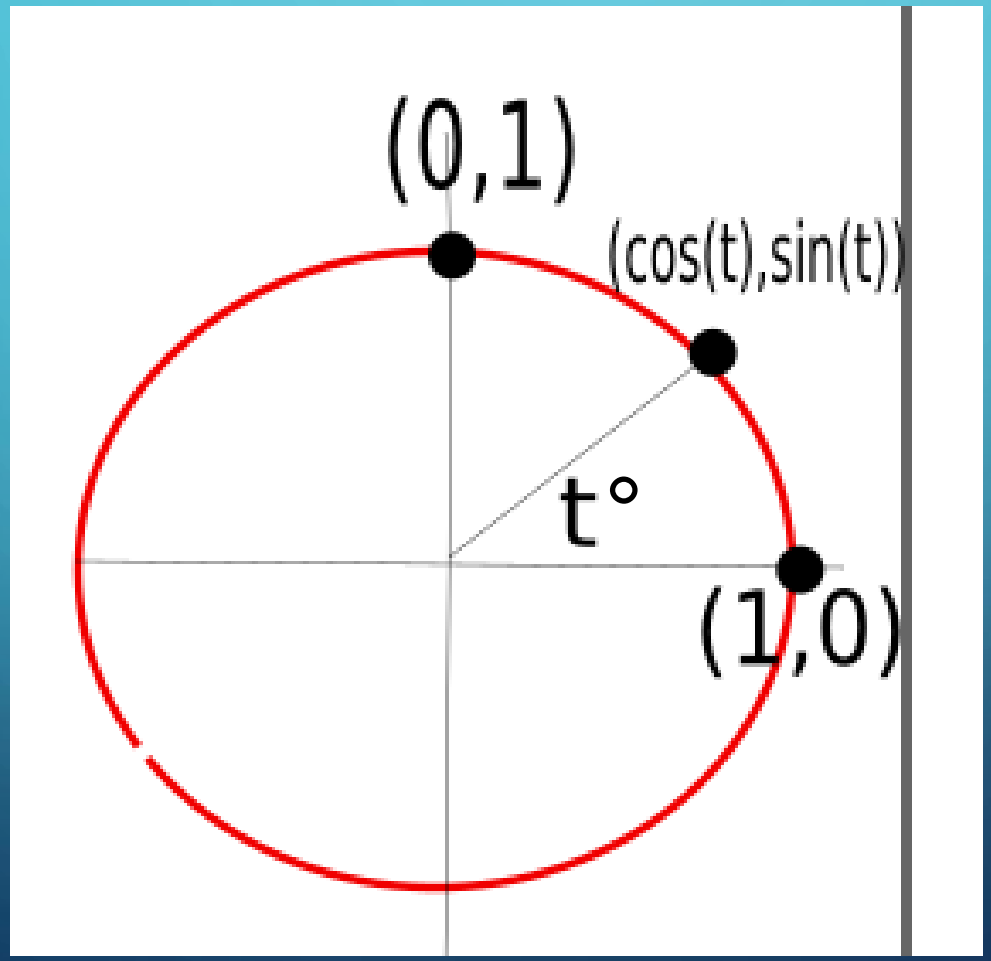
$$y = t^2$$



COSINE AND SINE ARE USED TO DESCRIBE POINTS ON A CIRCLE

5 points each

Cos(90°)=? Sin(90°)=?



Cos(0°)=1, Sin(0°)=0

LAST QUESTION

5 points

In today's lesson we will see how sine and cosine can be used to create interesting p_____ curves.