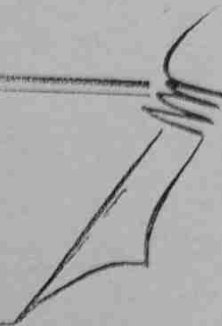


Application of Mathematics in Game Theory

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When you are playing a computer game you will see that math's is everything. In video games and animation is designing 3D images on a computer using mathematical formulas. In the video games, e. g. trajectory of an angry bird plummeting through the sky to a car crash or Grand Theft auto, the way objects & characters move across the screen is grounded in one type of mathematics formula or another.

While computer game programmers definitely need Math's to make the game function, the designers who are merely working on the visuals really have to know their stuff.

Branches of Math's which use in game development are :-

- Algebra
- Discrete Mathematics
- Trigonometry
- Calculus
- Linear Algebra
- Applied Mathematics

More specific elements of Math's almost always used in games are :-

- Matrices
- Delta time
- Unit and scaling vectors
- Dot and cross products
- Scalar multiplication

Math's In Programming :-

While Math's is useful even in the art side of game development. Without Math's programmers would not be able to make objects in the game do even the simplest of things, including movement. It is not hard to see why a game without programming and math's would just be a bunch of pretty useless art.

Math's = The Foundation of game design :-

Mathematics is the foundation of every game and necessary for everything to work as the designers intend.

In the same way Math's doesn't work unless you learn and apply the rules. A video game can't have rules without Math's. When you think about it, video games are essentially virtual worlds with lots of rules that keep everything working as intended.

No Math's, means Mario keeps floating up after jumping, bullets in Call of Duty shoot in random directions, and even your favorite character in Angry birds moves in inconsistent ways, if it moves at all.

Most of the time the Math's you learned in high school & college is so different than what was used to design a game.