[](https://www.knowitallninja.com/)Uses of Game Engines

# Task 1

Below is an article by Nvidia that compares Ray Tracing and Rasterisation.

https://blogs.nvidia.com/blog/2018/03/19/whats-difference-between-ray-tracing-rasterization/

Read this article and explain the benefits of ray tracing over rasterization.

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# Task 2

(a) With game physics there are both rigid-body and soft-body dynamics. In the table below, summarise the difference between these two things and provide an example of where they would be used in a video game.

|  |  |  |
| --- | --- | --- |
| Physics | Explanation | Example Use |
| Rigid-Body |  |  |
| Soft-Body |  |  |

(b) Research the term “Ragdoll Physics” and summarise your findings below:

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# Task 3

The video linked below explains how collision works in video games.

<https://www.youtube.com/watch?v=z7xMIRzIDpU>

Watch this video and answer the questions below:

1. What is a hitbox?

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2. Why do we need hitboxes?

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3. How do hitboxes allow us to assign different damage when hitting different parts of an enemy?

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4. What method do we usually use for collision detection in games?

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# Task 4

What is inverse kinematics and what is forward kinematics? What is the benefit of using inverse kinematics in your game?

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