SPECIALIST EDUCATORS IN
GAMES, ANIMATION & FILM VFX

Exercise – Object Oriented Design

1. What are the key differences between procedural and OO programming?
2. What are the four main tenets of OO? For each one write a sentence in your own words summarizing what it means
3. For an NPC in a game would you make the following variables private (can only be access by functions in the object, or public (can be accessed by any object): Position, Health, SpriteID, behavioural state
4. Organise the following objects into a suitable hierarchy: tree, rabbit, plant, fox, stone, grass, predator, animal and tiger. Is there any additional objects you'd like to add? Draw the inheritance tree
5. For the example above think about what functionality and attributes each object has and how those are inherited by other further down the inheritance tree.
6. Research OO programming languages and produce a definitive list. Historically what was the first language?
7. Is C++ OO? (hint: you might want to research what its creator has to say on the subject)