1. What limitations do you think your game engine would have? Try to explain what these limitations are.

Limitations of our engine would be that I wouldn’t be able to do a 3d games. The game engine only has 2d dimension x and y, in the viewport it will be flat. Movement will be locked in the x and y axis. No mouse controls because it is not needed in a 2d side scroller. Assets such as textures and actors will be limited to an image file (jpeg, png, bmp, etc). No lighting support.

2. How can you adapt your game engine in order to accept a different game genre? You may use diagrams, UML, etc. to help illustrate your example. (if your game genre was FPS pick a different genre for instance RPG and describe how your engine would be different).

We can change our game engine from a Metriodvania to a Shoot’em up. We can adapt our engine to and change it from side scrolling to a top down by flipping the world level so that it would scroll up and down. The camera can be reposition and make it follow the character as the map automatically scrolls up. We can place the character as its top down and control the directions it can move in. Enemies can spawn off screen and approach or stationary attack the player when the player is close by or when the enemy is in view. Enemy drop rate can be change from dropping health and ammo to extra lives and power ups. Another genre of game we can change how our engine work would be FPS. We would have to do something similar to Doom. Using raycast to determine what to draw in front of the camera while using a top down map as the game level. Doing something the same thing as previously mentioned we can change some game mechanics to create a clone or something similar to Doom.