Experiment:03 –

Change the third person character mesh and add animations.

AIM:

To Change the third person character mesh and add animations.

ALGORITHM(for change the third person character mesh):

1. Import the new character mesh:
   - Open your project in Unreal Engine.
   - Go to the Content Browser.
   - Right-click in the desired folder and select Import.
   - Locate and select your new character mesh file.
   - Configure the import settings as needed.
   - Click Import to bring the mesh into your project.
2. Create a new Blueprint based on the Third Person Character template:
   - In the Content Browser, right-click in the desired folder.
   - Select Create Basic Asset > Blueprint Class.
   - In the Class Settings window, search for "Third Person Character" and select it as the parent class.
   - Name the Blueprint and click Create.
3. Set up the character skeleton and mesh:
   - Open the newly created Blueprint.
   - In the Blueprint editor, find the Components panel on the left.
   - Locate the Mesh component.
   - In the Details panel on the right, under the Mesh section, click the dropdown menu for Skeletal Mesh.
   - Select your imported character mesh from the list.
4. Adjust the collision capsule:
   - In the Components panel, find the Capsule Component.
   - Adjust the Capsule Half Height and Radius properties to fit your new character mesh.
   - This ensures that the character's collision capsule matches the new mesh.
5. Test the character:
   - Compile and save the Blueprint.
   - Drag and drop the character Blueprint into the level or set it as the default character in your game mode.
   - Play the game to test the character with the new mesh.

OUTPUT:
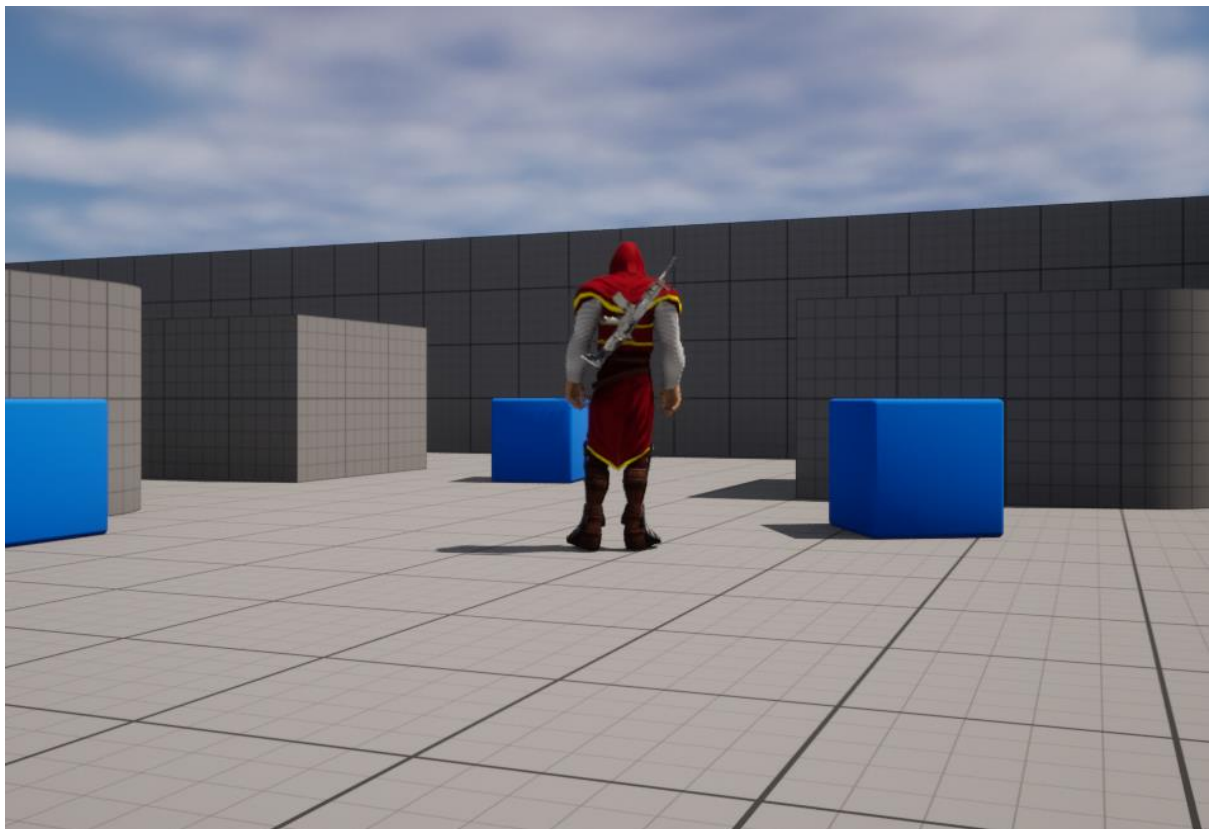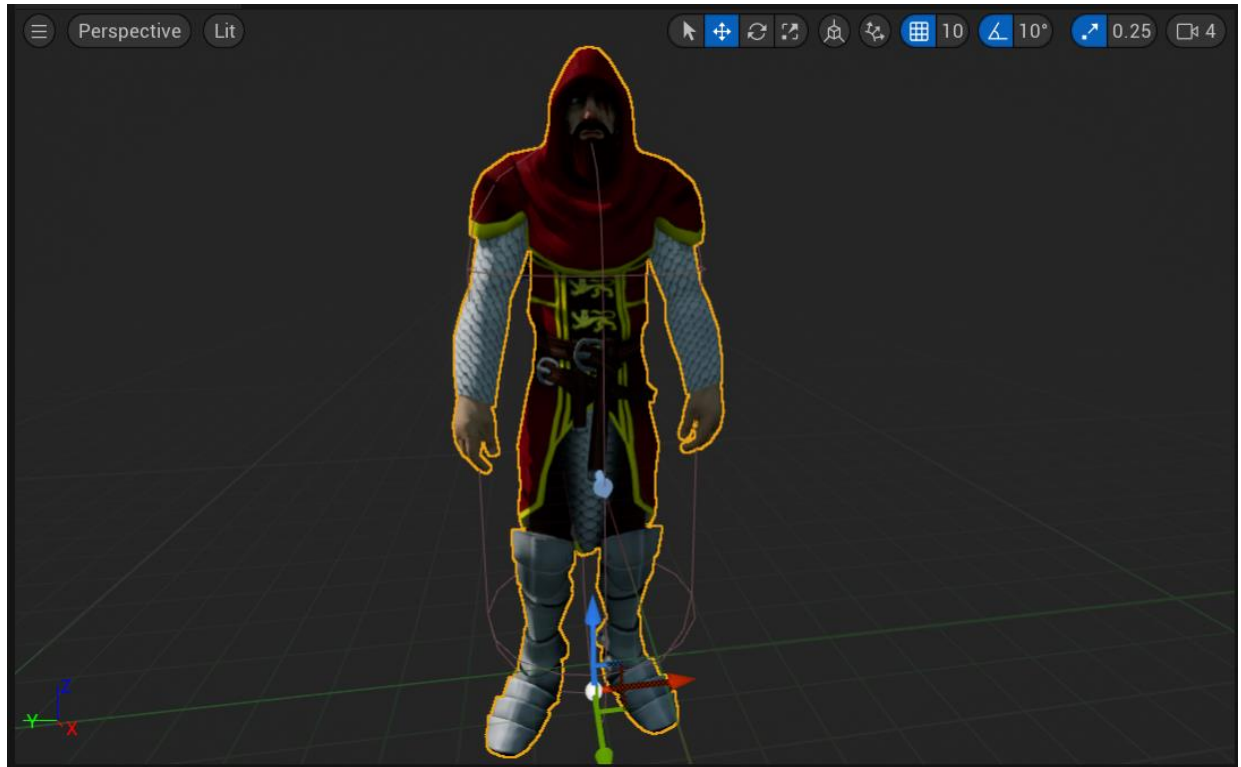
ALGORITHM(for adding animation):

1. Import the animation assets:
   - Open your project in Unreal Engine.
   - Go to the Content Browser.
   - Right-click in the desired folder and select Import.
   - Locate and select your animation files.
   - Configure the import settings as needed.
   - Click Import to bring the animations into your project.

2. Create an Animation Blueprint:
   - In the Content Browser, right-click in the desired folder.
   - Select Animation > Animation Blueprint.
   - In the Pick Parent Class window, search for "ThirdPersonCharacter" and select it as the parent class.
   - Name the Animation Blueprint and click Create.

3. Open the Animation Blueprint:
   - Double-click the Animation Blueprint you just created to open it in the Animation Blueprint editor.

4. Set up the Event Graph:
   - In the Animation Blueprint editor, locate the Event Graph tab.
   - Right-click in the graph and search for "Update Animation."
   - Add the Update Animation node to the graph.

5. Set up the Anim Graph Update:
   - Drag off the Update Animation node and search for "Set Anim Graph Update Rate."
   - Connect the Set Anim Graph Update Rate node to the Update Animation node.

6. Create animation states:
   - Right-click in the graph and search for "Add State."
   - Create animation state nodes for each animation you want to use (e.g., Idle, Walk, Run, Jump, etc.).

7. Connect the animation states:
   - Connect the animation state nodes to the output of the Update Animation node.
   - Use appropriate transitions between the animation states to define the character's animation flow.

8. Assign animation assets:
   - In the Animation Blueprint editor, switch to the AnimGraph tab.
   - Drag and drop your imported animation assets into the graph.
   - Connect the animation assets to the appropriate animation state nodes.

9. Test the character animations:
    o   Compile and save the Animation Blueprint.
    o   Go back to the character Blueprint.
    o   In the Components panel, find the Mesh component.
    o   In the Details panel, under the Mesh section, find the Anim Class property.
   o   Assign the Animation Blueprint you created to the Anim Class property.

10. Create a state diagram (optional):
-   To visualize the animation state flow, you can create a state diagram.
-   In the Animation Blueprint editor, go to the AnimGraph tab.
-   Right-click in the graph and select Create State Machine.
-   Name the state machine and click Create.
-   Drag and drop the animation state nodes onto the state machine graph.
-   Connect the nodes with transitions to represent the animation flow.

11. Test the character with animations:
-   Compile and save both the character Blueprint and Animation Blueprint.
-   Drag and drop the character Blueprint into the level or set it as the default character in your game mode.
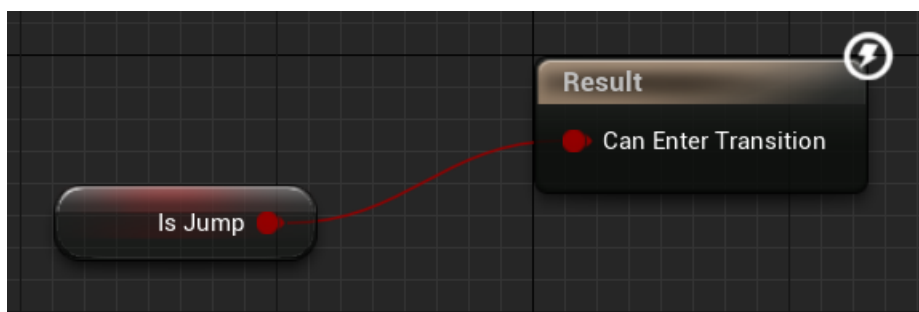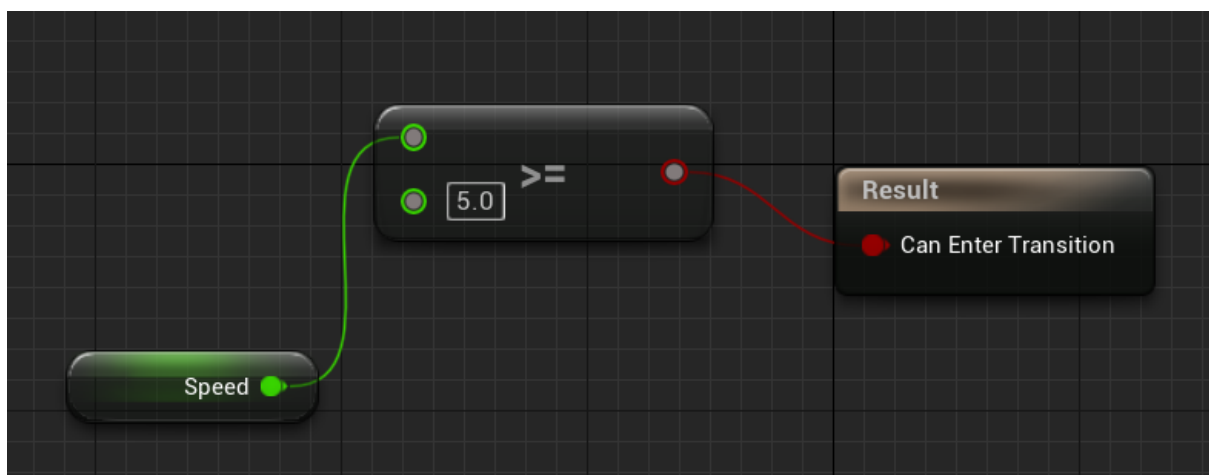-   Play the game to test the character with the new mesh and animations.
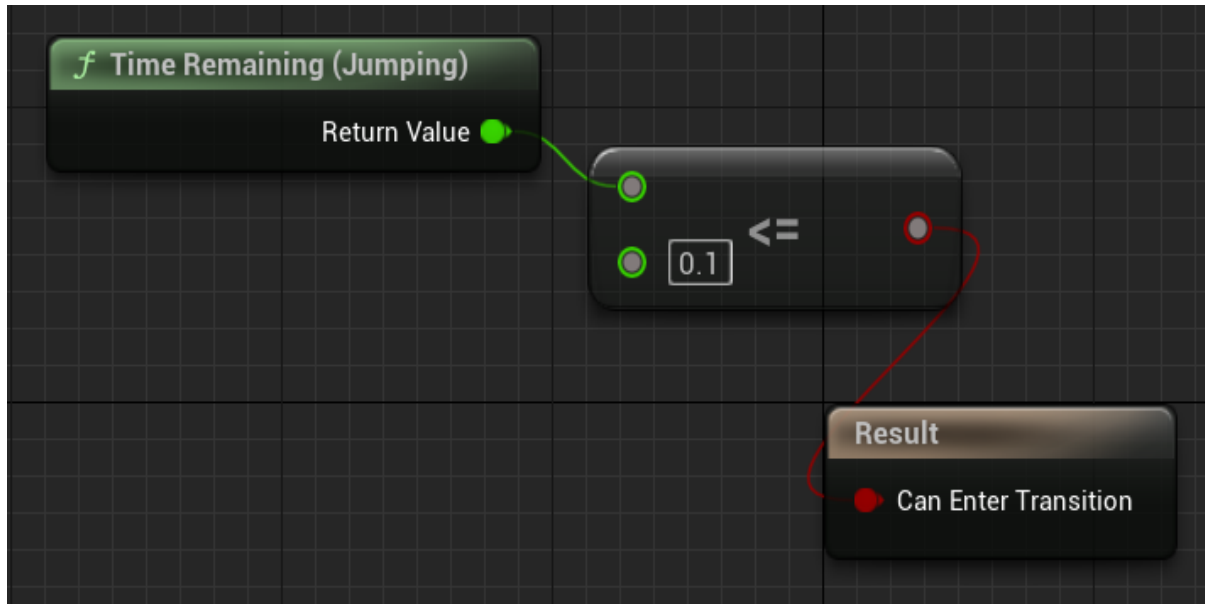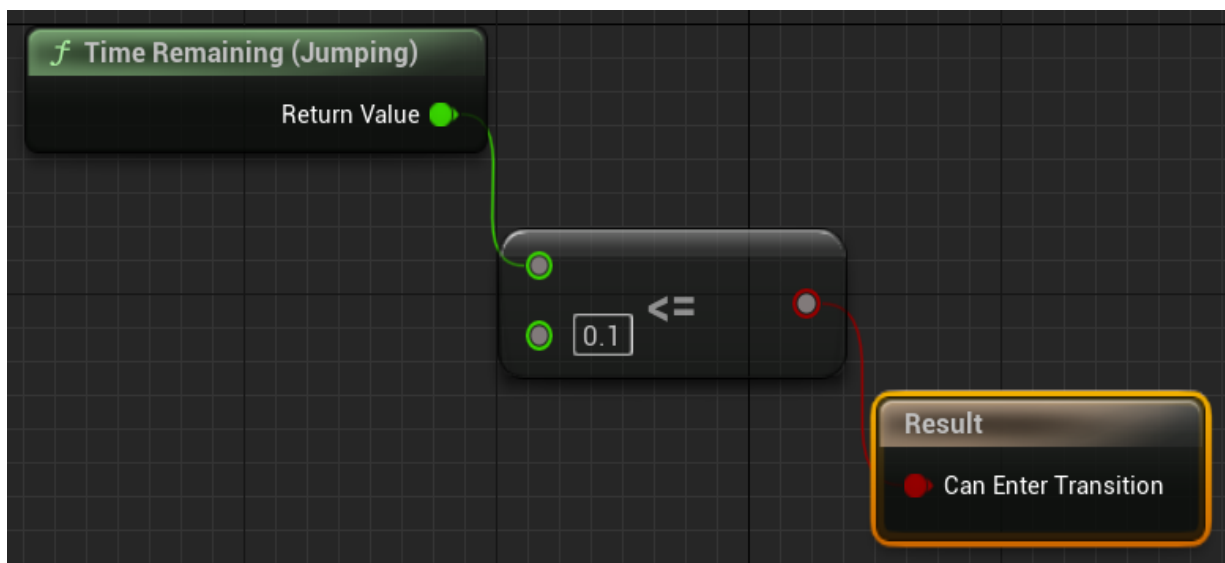
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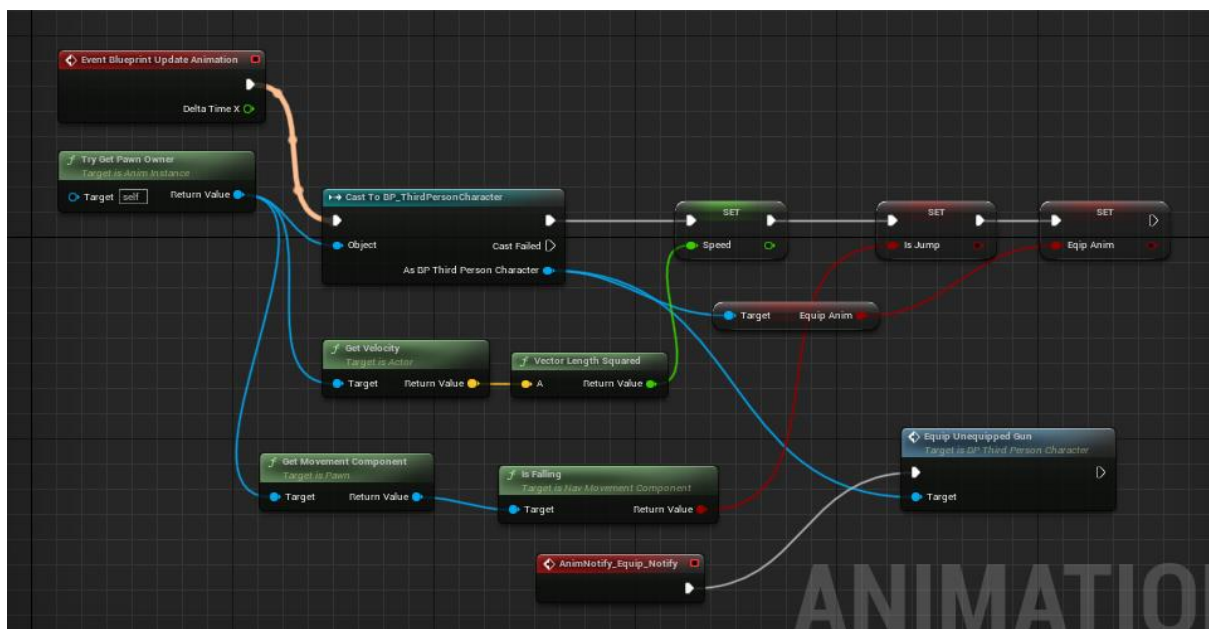
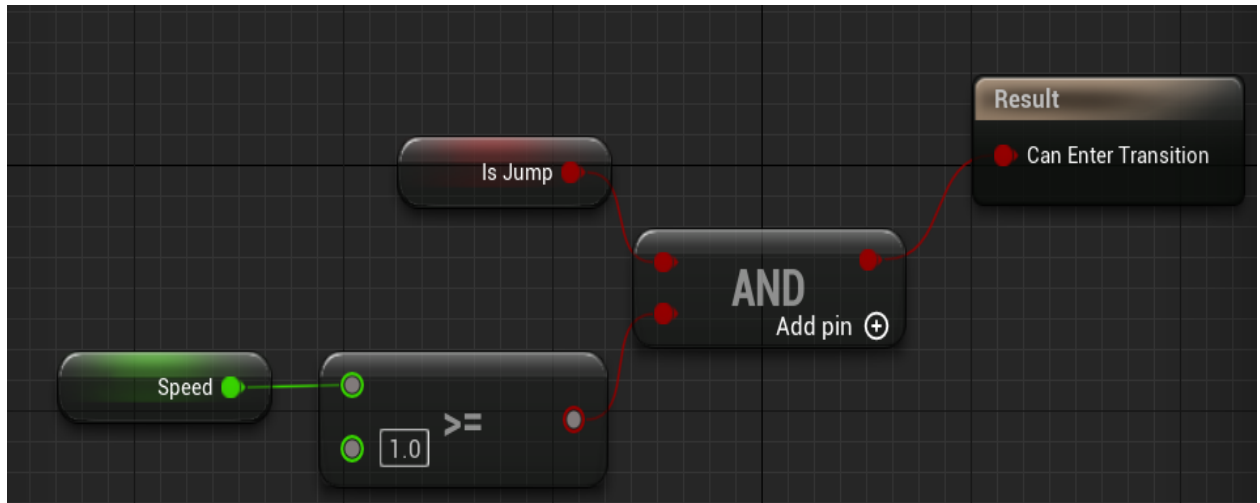# STATE GRAPH
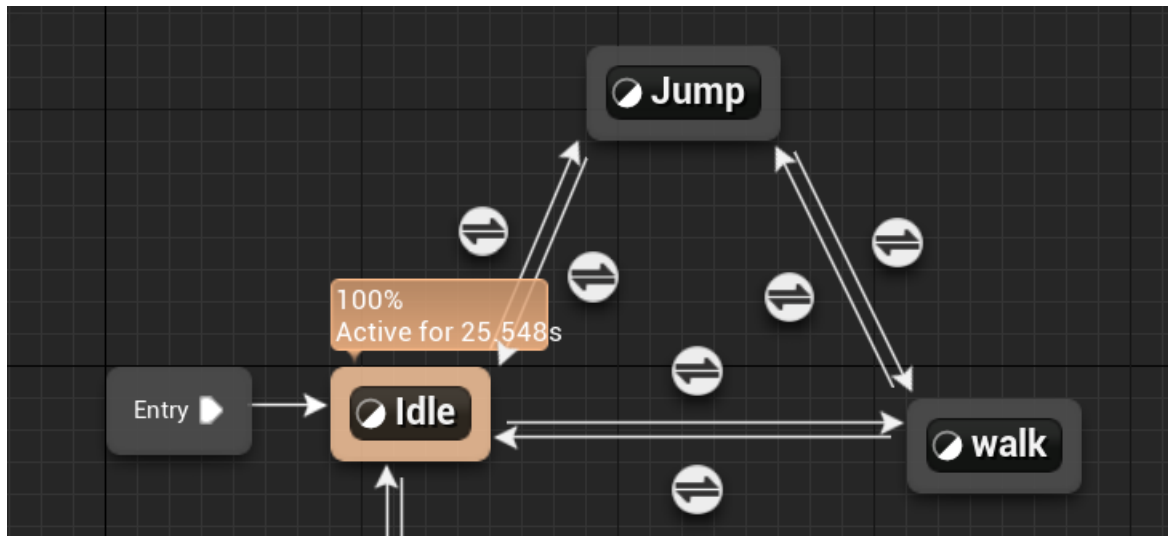
IDLE TO JUMP CONDITION:

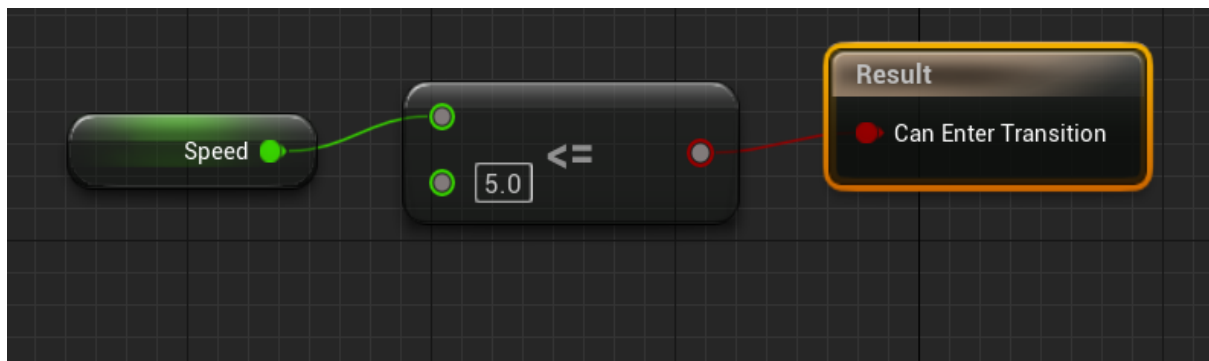# IDLE TO WALK CONDITION:

JUMP TO IDLE CONDITION:

JUMP TO WALK CONDITION:

WALK TO JUMP CONDITION:

WALK TO IDLE CONDITION:

Result:

Thus, **third person character mesh has been changed and added animations.**