Quiz **Unit 3**

QUESTION	CHOICES

1 You are trying to STOP spawning enemies when the player has died and have created the two scripts below to do that. However, there is an error on the underlined code, "isAlive" in the EnemySpawner script. What is causing that error?

a. The "p" should be capitalized in "playerController.isAlive"
b. The "bool" in the PlayerController class needs a "public" access modifier
c. The if-statement cannot be in the Update method
d. "isAlive" must start with a capital "I" ("IsAlive")

```
public class PlayerController : MonoBehaviour {
  bool isAlive;
  ...
}

public class EnemySpawner : MonoBehaviour {
  void Start() {
    playerController = GameObject.Find("Player").GetComponent<PlayerController>();
  }
  void Update() {
    if (playerController.isAlive == false) {
      StopSpawning();
    }
  }
}
```
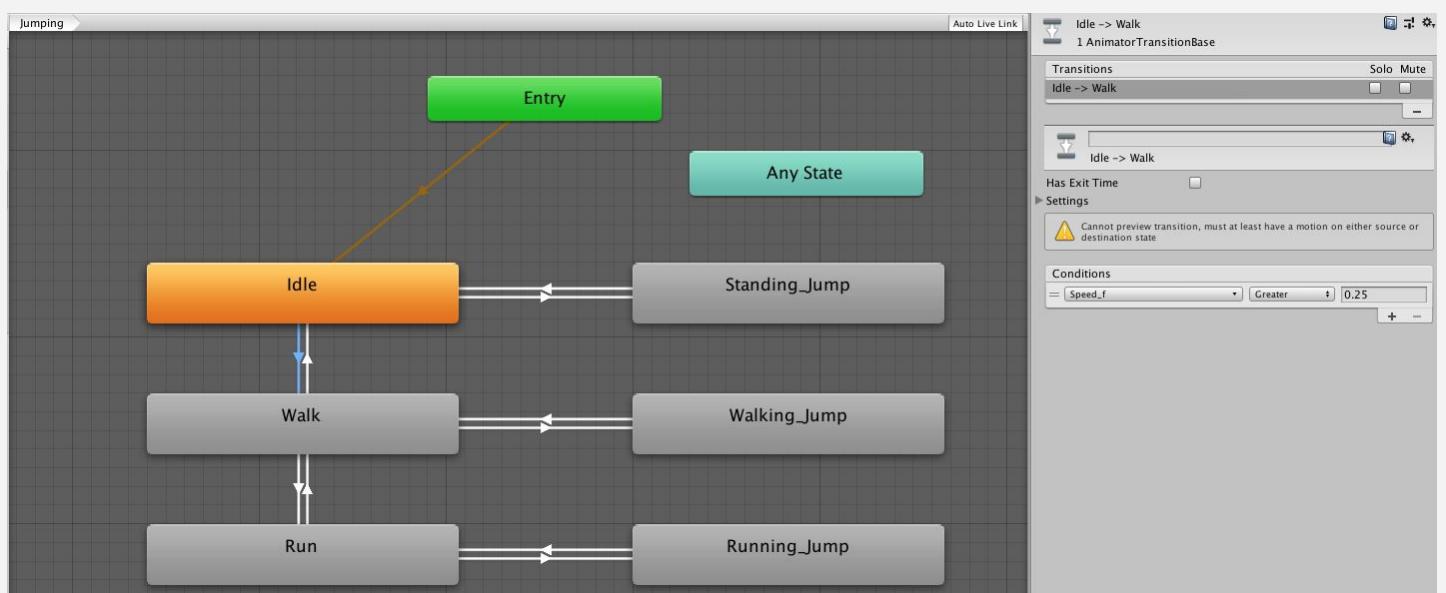
2 Match the following animation methods with its set of parameters

```
1. anim.SetBool(_____);        A. "Celebrate"
2. anim.SetTrigger(_____);       B. "Alive", true
3. anim.SetInt(_____);           C. "ThrowType", 2
```

a. 1A, 2B, 3C
b. 1A, 2C, 3B
c. 1B, 2A, 3C
d. 1C, 2A, 3B

3 Given the animation controller / state machine below, which code will make the character transition from the "Idle" state to the "Walk" state.

a. setFloat("Speed_f", 0.3f);
b. setInt("Speed_f", 1);
c. setTrigger("Speed_f");
d. setFloat("Speed_f", 0.1f);

4 Which of these is the correct way to get a reference to an AudioSource component on a GameObject?

```
A. audio = GetComponent<AudioSource>();
B. audio = GetComponent(AudioSource)<>;
C. audio = AudioSource.GetComponent<>();
D. audio = GetComponent.Audio<Source>;
```

a. Line A
b. Line B
c. Line C
d. Line D

5 When you run a project with the code below, you get the following error: "NullReferenceException: Object reference not set to an instance of an object." What is most likely the problem?

```
public class Enemy : MonoBehaviour {
  void Start() {
    player = GameObject.Find("Player");
  }
  void OnTriggerEnter(Collider other) {
    if (player.transform.position.z > 10) {
      Destroy(other.gameObject);
    }
  }
}
```

a. The Player object does not have a collider
b. The Enemy object does not have a Rigidbody component
c. The "Start" method should actually be "Update"
d. There is no object named "Player" in the scene

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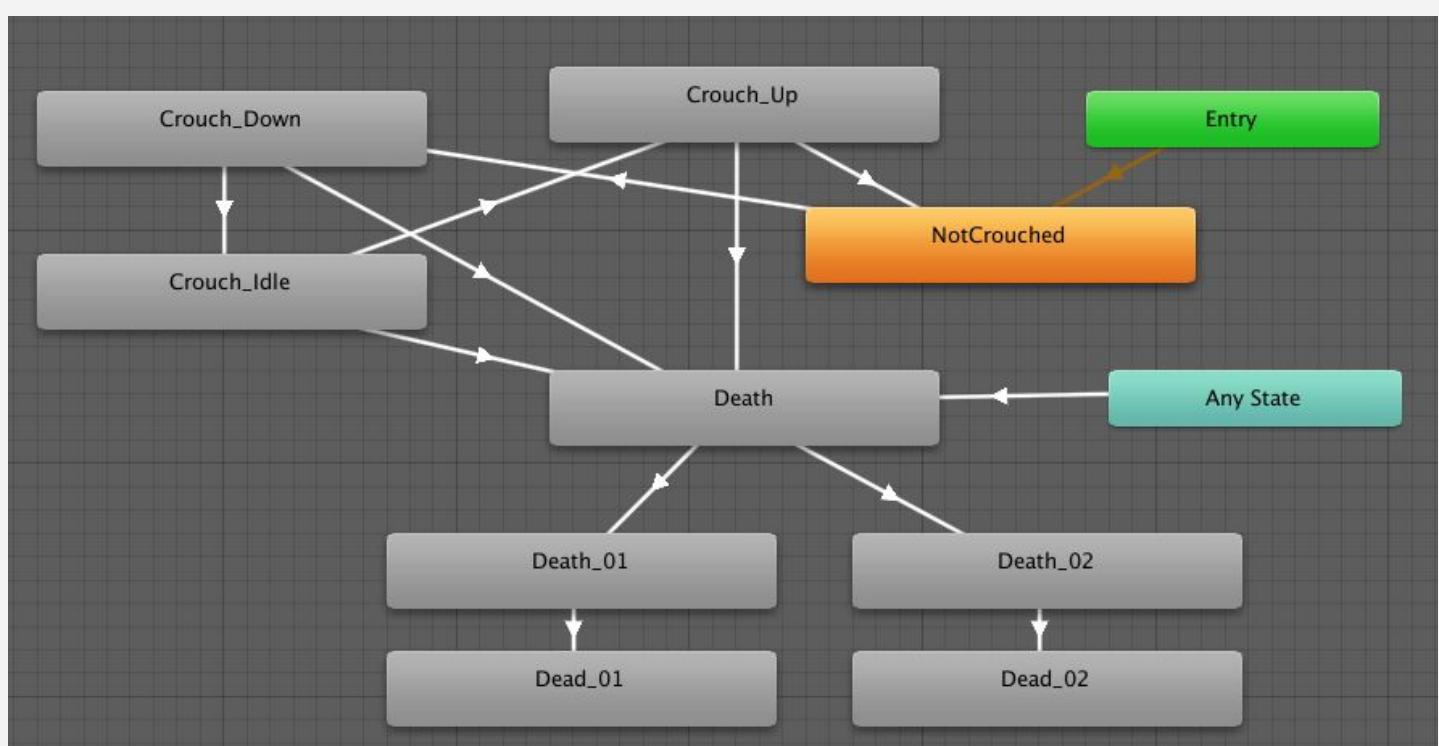
6 Which of the following conditions properly tests that the game is NOT over and the player IS on the ground

a. Line A
b. Line B
c. Line C
d. Line D

```
A. if (gameOver == false AND isOnGround)
B. if (gameOver && isOnGround == true)
C. if (gameOver != true && isOnGround)
D. if (gameOver != false && isOnGround == true)
```

7 By default, what will be the first state used by this Animation Controller?

a. "Any State"
b. "NotCrouched"
c. "Death"
d. "Crouch_Up"
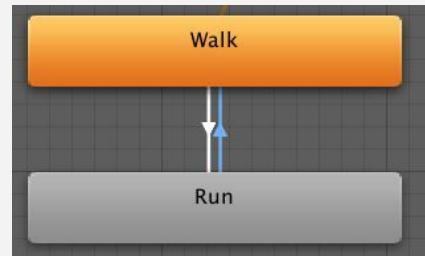
8 Which of the following variable declarations observes Unity's standard naming conventions (especially as it relates to capitalization)?

a. 2 and 4
b. 3 and 6
c. 4 and 5
d. 1 and 5

```
1. private Animator anim;
2. private player Player;
3. Float JumpForce = 10.0f;
4. bool gameOver = True;
5. private Vector3 startPos;
6. Public gameObject ObstaclePrefab;
```

**9** Which of the following is most likely the condition for the transition between "Run" and "Walk" shown below?
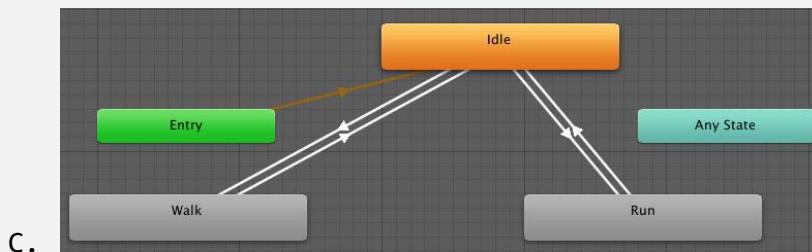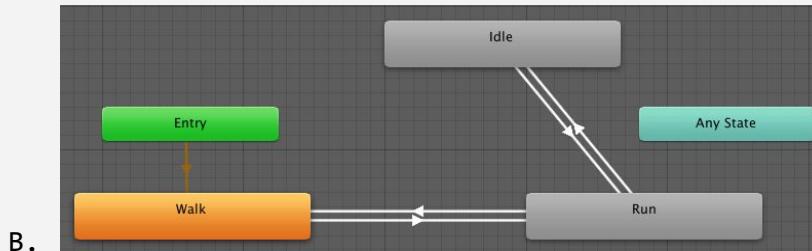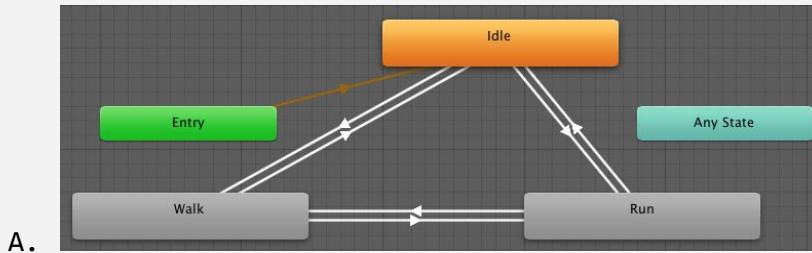
a. Jump_b is true
b. Speed_f is Less than 0.5
c. Speed_f is Greater than 0.5
d. Animation_int is Less than 10

A.
```
= Jump_b          ▾    true          ◆
```

B.
```
= Speed_f         ▾    Less    ◆  0.5
```

C.
```
= Speed_f         ▾    Greater ◆  0.5
```

D.
```
= Animation_int   ▾    Less    ◆  10
```

10 Which of the following do you think makes the most sense for a simple movement state machine?

a. Image A
b. Image B
c. Image C

A.

B.

C.

Quiz **Answer Key**

#	ANSWER	EXPLANATION
1	B	In order to access a variable from another class, that variable needs to be "public". By default, if there is no access modifier, variables are private and cannot be accessed by another class
2	C	SetInt would require an integer parameter, SetBool would require a boolean parameter, and SetTrigger only requires the trigger name/id
3	A	You can see in the inspector that the condition for this transition is that "Speed_f is greater than 0.25". You can tell it's a float because it uses decimal points and it must be higher than 0.25.
4	A	"GetComponent<AudioSource>();" is the correct way to use the GetComponent method
5	D	If you try to "Find" an object that is not in the scene, you will get a "NullReferenceException" error.
6	C	!= means "does not equal to", so "gameOver != true" is testing that the game is *not* over. If you just use the boolean's name like "isOnGround," this tests whether that boolean is true. The syntax for testing two conditions is "&&".
7	B	The default starting state is the one that the "Entry" state connects to.
8	D	1. private Animator anim; - this is correct 2. private player Player; - should be "private Player player" 3. Float JumpForce = 10.0f; - should be "float jumpForce = 10.0f" 4. bool gameOver = True; - should be "true" (lowercase "t") 5. private Vector3 startPos; - this is correct 6. Public gameObject ObstaclePrefab; - should be "public GameObject obstaclePrefab"
9	B	If you are transitioning from Running to Walking, that most likely is a result of reducing speed, so checking if "Speed_f is *less* than 0.5" is most likely
10	A	You should start with "Idle" as the default state, then be able to transition between any of the states (Idling, Walking, Running). There should definitely be a transition between Walk and Run.

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