



Quiz Unit 4

QUESTION

- 1 You're trying to write some code that creates a random age between 1 and 100 and prints that age, but there is an error. What would fix the error?

```
1. private int age;
2.
3. void Start() {
4.     Debug.Log(GenerateRandomAge());
5. }
6.
7. private int GenerateRandomAge() {
8.     age = Random.Range(1, 101);
9. }
```

CHOICES

- a. Change line 1 to "private float age"
- b. Add the word "int" to line 8, so it says "int age = ..."
- c. On line 7, change the word "private" to "void"
- d. Add a new line after line 8 that says "return age;"

- 2 The following message was displayed in the console: "Monica has 20 dollars". Which of lines in the PrintNames function produced it?

- a. Option A
- b. Option B
- c. Option C
- d. Option D

```
string[] names = new string[] { "Steve", "Monica", "Eric" };
int money = 5;

void Start() {
    money *= 2;
    PrintNames();
}

void PrintNames () {
    A. Debug.Log("Monica has " + money/2 + " dollars");
    B. Debug.Log(names[1] + " has " + money*2 + " dollars");
    C. Debug.Log(names[2] + " has " + money*4 + " dollars");
    D. Debug.Log(names[Monica] + " has " + money/2 + " dollars");
}
```

- 3** The code below produces “error CS0029: Cannot implicitly convert type 'float' to 'UnityEngine.Vector3’”. Which of the following would remove the error?

```
1. private Vector3 startingVelocity;
2. void Start() {
3.     startingVelocity = 2.0f;
4. }
```

- a. On line 1, change “Vector3” to “float”
- b. On line 3, change “=” to “+”
- c. Either A or B
- d. None of the above

- 4** Which of the following follows Unity’s naming conventions (especially as it relates to capitalization)?

A. `float forwardInput = Input.GetAxis("Vertical");`
 B. `float ForwardInput = input.GetAxis("Vertical");`
 C. `Float forwardInput = Input.GetAxis("Vertical");`
 D. `float forwardInput = input.GetAxis("vertical");`

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

- 5** You are trying to assign the powerup variable in the inspector, but it is not showing up in the Player Controller component. What is the problem?

```
public class PlayerController : MonoBehaviour
{
    private GameObject powerup;
}
```

- a. You cannot declare a powerup variable in the Player Controller Script
- b. You cannot assign GameObject type variables in the inspector
- c. The powerup variable should be public instead of private
- d. The PlayerController class should be private instead of public

- 6** Your game has just started and you see the error, “UnassignedReferenceException: The variable playerIndicator of PlayerController has not been assigned.” What is likely the solution to the problem?

```
public class PlayerController : MonoBehaviour
{
    public GameObject playerIndicator;
    void Update() {
        playerIndicator.transform.position.y = 10;
    }
}
```

- a. PlayerController variable in the playerIndicator script needs to be declared
- b. The playerIndicator variable needs to be made private
- c. The PlayerController script must be assigned to the player object
- d. An object needs to be dragged onto the playerIndicator variable in the inspector

7 You are trying to create a new method that takes a number and multiplies it by two. Which method would do that?

- a. Method A
- b. Method B
- c. Method C
- d. Method D

- A. `private float DoubleNumber() {`
 return number *= 2;
}`
- B. `private float DoubleNumber(float number) {`
 return number *= 2;
}`
- C. `private void DoubleNumber(float number) {
 return number *= 2;
}`
- D. `private void DoubleNumber() {
 return number *= 2;
}`

8 Which comment best describes the code below?

```
public class Enemy : MonoBehaviour
{
    // Comment
    private void OnTriggerEnter(Collider other) {
        if(other.CompareTag("Spike")) {
            Destroy(other.gameObject);
        }
    }
}
```

- a. // If the player collides with an enemy, destroy the enemy
- b. // If the enemy collides with a spike, destroy the spike
- c. // If the enemy collides with a spike, destroy the enemy
- d. // If the player collides with a spike, destroy the spike

9 The code below produces the error, "error CS0029: Cannot implicitly convert type 'UnityEngine.GameObject' to 'UnityEngine.Rigidbody'". What could be done to fix this issue?

- 1. `void OnCollisionEnter(Collision collision) {`
- 2. `if(collision.gameObject.CompareTag("Enemy")) {`
- 3. `Rigidbody enemyRb = collision.gameObject;`
- 4. `}`
- 5. `}`

- a. On line 1, change "collision" to "Rigidbody"
- b. On line 2, change "gameObject" to "Rigidbody"
- c. On line 3, delete ".gameObject"
- d. On line 3, add `".GetComponent<Rigidbody>()"` before the semicolon

10 Which of the following statements about functions/methods are correct:

- A. Functions/methods must be passed at least one parameter
- B. Functions/methods with a "void" return type cannot be passed parameters
- C. A Function/method with an "int" return type could include the code, "return 0.5f;"
- D. If there was a function/method declared as "private void RenameObject(string newName)", you could call that method with "RenameObject();"

- a. A and B are correct
- b. Only B is correct
- c. B and C are correct
- d. Only D is correct
- e. None are correct

Quiz Answer Key

#	ANSWER	EXPLANATION
1	D	Since the method has an "int" return type "private int GenerateRandomAge()", it must <i>return</i> an int.
2	B	Debug.Log(names[1] + " has " + money*2 + " dollars"); is correct. Arrays start with index 0, so "Monica" has the index value of "1" (names[1]). In start, money is multiplied by 2, making it 10, so "money*2" would give you the value of 20.
3	A	Changing "Vector3" to "float" would work because you would just be multiplying a float by another float. Changing "=" to "+" would not work because you can't add a float to a Vector3.
4	A	Lowercase "float", camelCase variables, Capitalized class & method names
5	C	Making a variable public will make it appear in the inspector.
6	D	If the consoles says a variable is not assigned, you most likely forgot to assign that variable by dragging on object onto it in the inspector.
7	B	Since it needs to "return" a value, it should have a return type of "private float " as opposed to "private void ." Since it needs to take a number, it needs a float parameter ("float number").
8	B	Since this is the "Enemy" class, we are testing for the enemy colliding with something. Since it destroys " other.gameObject ", it will destroy the spike.
9	D	The code cannot convert a Rigidbody type variable to a GameObject type variable, so you have to get the Rigidbody component from the gameObject
10	E	<ul style="list-style-type: none"> A. Functions/methods do not necessarily require parameters B. Functions/methods with a "void" return type <i>can</i> be passed parameters C. A Function/method with an "int" return type could not include the code, "return 0.5f;," since 0.5f is a float D. If there was a function/method declared as "private void RenameObject(string newName)", you would have to pass it a string parameter, such as RenameObject("Steve");