Quiz 2 – Hashes

1. **TRUE** or **FALSE**: A hash is the best data type for storing items in a sequenced order.
   (This was discussed in lecture “Intro to Hashes”)
   a. True
   b. False

   Correct Answer: Option b - False
   Explanation:
   Option a – Nope, an array is better suited for storing elements in order. A hash is best for establishing associations/connections between values.
   Option b – That's right. A hash is ideal for establishing associations/relations between objects. For storing objects in order, an array is ideal.

2. Select the statement below that is true.
   (This was discussed in lecture “Intro to Hashes”)
   a. Both hash keys and hash values cannot contain duplicates.
   b. Both hash keys and hash values can contain duplicates.
   c. Hash keys can contain duplicates; hash values cannot contain duplicates.
   d. Hash values can contain duplicates; hash keys cannot contain duplicates.

   Correct Answer: Option d - Hash values can contain duplicates; hash keys cannot contain duplicates.
   Explanation:
   Option a - Nope, hash values CAN contain duplicates!
   Option b - Nope, hash keys cannot contain duplicates!
   Option c - Nope, other way around!
   Option d – Good job!

3. Why are symbols advantageous as hash keys when compared to strings?
   (This was discussed in lecture “Symbols as Hash Keys”)
   a. It’s simpler syntax to create a symbol than a string.
   b. It’s simpler syntax to use symbols when creating key-value pairs in a hash.
   c. It’s more efficient because symbols have less methods than strings.
   d. All of the above.

   Correct Answer: Option d – All of the above.
   Explanation:
   Option a – Incorrect answer. Please try again.
   Option b – Incorrect answer. Please try again.
   Option c – Incorrect answer. Please try again.
   Option d – Good job!

4. What will the code below output?

   ```
   states = { NJ: "New Jersey", NY: "New York", KY: "Kansas" }
   states[:KY] = "Kentucky"
   p states[:KY]
   ```

   (This was discussed in lecture “Add a New Key-Value Pair to Hash”)
   a. Kansas
   b. New Jersey

   c. Kentucky
   d. `nil`

   Correct Answer: Option c - Kentucky

   Explanation:

   Option a – Nope, the original value of Kansas will be overwritten/replaced by the new value of Kentucky.

   Option b – Nope, New Jersey is the value for the NJ key, not the KY key.

   Option c – That's correct!

   Option d – Nope, the KY key does exist within the states hash so Ruby will return its corresponding value.

5. When creating a hash with Hash.new, what potential issue should you be cautious of?
   (This was discussed in lecture “Reference Problems with Hash.new”)
   a. The hash cannot be merged with other hashes.
   b. All keys in the hash will have the same default value.
   c. The syntax creates reference issues when the default is a mutable object.
   d. The hash cannot have symbols as keys.

   Correct Answer: Option c - The syntax creates reference issues when the default is a mutable object.

   Explanation:

   Option a – Incorrect answer. Please try again.

   Option b – Incorrect answer. Please try again.

   Option c – Good job!

   Option d – Incorrect answer. Please try again.

6. Which method removes key-value pairs from a hash based on a condition?
   (This was discussed in lecture “The select and reject methods on a Hash”)
   a. `reject`
   b. `erase`
   c. `select`
   d. `eliminate`

   Correct Answer: Option a – `reject`

   Explanation:

   Option a – Good job!

   Option b – Incorrect answer. Please try again.

   Option c – Incorrect answer. Please try again.

   Option d – Incorrect answer. Please try again.

7. If you have two hashes, `a = {x: 1, y: 2}` and `b = {y: 3, z: 4}`, what will the result of `a.merge(b)` be?
   (This was discussed in lecture “The merge method”)
   a. `{x: 1, y: 2, z: 4}`
   b. `{x: 1, y: 3, z: 4}`
   c. `{x: 1, y: 5, z: 4}`
   d. `{y: 3, z: 4}`

Correct Answer: Option b - `{x: 1, y: 3, z: 4}`

Explanation:
Option a – Incorrect answer. Please try again.
Option b – Good job!
Option c – Incorrect answer. Please try again.
Option d - Incorrect answer. Please try again.