IT Skill Test GIC Myanmar

Duration: 30 Minutes Total Questions: 8

---

1. You are developing a game where a player must guess a number between 1 and 100. The game should continue until the player guesses correctly or decides to quit. Which looping construct is most appropriate?

   A.for (int guess = 0; guess != correctNumber; guess = getNextGuess()) { ... }

   B.while (true) { ... if (guess == correctNumber || userWantsToQuit) break; }

   C.do { ... } while (guess != correctNumber && !userWantsToQuit);

   D.for (;;) { ... if (guess == correctNumber || userWantsToQuit) return; }

2. You are developing a program to process a stream of data from a sensor. The sensor sends data continuously, but you want to stop processing after 1000 readings or if an error occurs. Which looping construct is most appropriate?

   A.for (int i = 0; i < 1000 && !error; i++) { ... }

   B.while (readings < 1000) { ... if (error) break; }

   C.do { ... } while (readings < 1000 && !error);

   D.for (Reading reading : sensor.getReadings()) { ... if (readings >= 1000 || error) break; }

3. You're implementing a method to calculate the factorial of a number. Which looping construct would be most efficient and readable?

   A.while (n > 0) { result *= n--; }

   B.do { result *= n; } while (--n > 0);

   C.for (int i = n; i > 0; i--) { result *= i; }

   D.for (;;) { if (n <= 1) break; result *= n--; }

4. You are developing a method to validate a credit card number using the Luhn algorithm. The algorithm requires you to process each digit from right to left. Which looping construct would be most appropriate?

   A.for (int i = cardNumber.length() - 1; i >= 0; i--) { ... }

   B.while (index >= 0) { ... index--; }

   C.do { ... index--; } while (index >= 0);

   D.for (char digit : cardNumber.toCharArray()) { ... }

5. You're implementing a method to find the longest palindromic substring in a given string. Which looping construct would be most efficient for checking all possible substrings?

   A.for (int i = 0; i < s.length(); i++) { for (int j = i; j < s.length(); j++) { ... } }

   B.while (start < s.length()) { while (end < s.length()) { ... end++; } start++; }

   C.do { do { ... end++; } while (end < s.length()); start++; } while (start < s.length());

   D.for (char c : s.toCharArray()) { for (char d : s.toCharArray()) { ... } }

6. You are developing a program to simulate a simple elevator system. The elevator moves up or down based on floor requests until there are no more requests. Which looping construct is most appropriate for the main elevator control loop?

   A.for (int floor = 1; floor <= MAX_FLOOR; floor++) { ... }

   B.while (!floorRequests.isEmpty()) { ... }

   C.do { ... } while (isElevatorRunning);

   D.for (FloorRequest request : floorRequests) { ... }

7. You're implementing a method to perform bubble sort on an array of integers. Which looping construct would be most suitable for the outer loop of the algorithm?

   A.for (int i = 0; i < arr.length - 1; i++) { ... }

   B.while (swapped) { ... }

   C.do { ... } while (swapped);

   D.for (int num : arr) { ... }

8. You are developing a program to process a large dataset of customer orders. The exact number of orders is unknown, but you need to iterate through them until you reach the end of the dataset. Which looping construct would be most appropriate for this scenario?

   A.for (int i = 0; i < orders.size(); i++) { ... }

   B.while (hasNextOrder()) { ... }

   C.do { ... } while (currentOrder != null);

   D.for (Order order : orders) { ... }