

Code

```
import java.util.Scanner;
import java.util.Random;
import java.util.*;
public class Quiz1 {
public static void main(String[] args)
{

    HashMap<String, String> map = new HashMap<>();
        Scanner din=new Scanner(System.in);
        Scanner din1=new Scanner(System.in);
        // Adding elements to the Map
        // using standard put() method
        map.put("ravi", "abcd");
        map.put("sachin", "xyz");
        map.put("vaibhav", "pqr");

        System.out.println("Enter username");
        String username=din.nextLine();

        // System.out.println(username);

        System.out.println("Enter the password");
        String password=din1.nextLine();

        // System.out.println(password);
        // System.out.println(map.containsKey(username));
        // System.out.println(map.containsValue(password));
        if(map.containsKey(username) && map.containsValue(password))
        {

            System.out.println("=====Hi!! welcome  " + username
+"=====");
            System.out.println("");

            String q1 = "What is hardware?\n"
                + "(a)virtual machine\n(b)the physical machine\n(c)applications
such as browsers\n(d)part of the processor\n";

            String q2 = "What does counter++; do?\n"
```

```
        + "(a)Adds 1 to counter\n(b)Adds 2 to counter\n(c)Gets the  
sum\n(d)Multiplies the numbers\n";
```

```
String q3 = "What is a loop that never stops?\n"  
        + "(a)For Loop\n(b)Infinite Loop\n(c)Do-While Loop\n(d)Full  
Loop\n";
```

```
String q4 = "In a while loop, if the boolean expression is true, what  
will the loop do?\n"  
        + "(a)Break\n(b)Program will exit\n(c)Repeat\n(d)Continue through  
program\n";
```

```
String q5 = "What special value is designated for controlling a loop?\n"  
        + "(a)Control value\n(b)Mutator Method\n(c)Accessor  
Method\n(d)Sentinel Value\n";
```

```
String q6 = "What is a method?\n"  
        + "(a)A collection of statements grouped together to perform an  
operation\n(b)A value returned from a method using the return statement\n(c)The  
portion of the program where the variable can be accessed.\n(d)The combination of  
the name of a method and the list of its parameters\n";
```

```
String q7 = "What is an object?\n"  
        + "(a)Representation of an entity in the real world that can be  
distinctly identified\n(b)A static method can be called without creating an  
instance of the class\n(c)Instance variable/instance method\n(d)A template,  
blueprint or contract that defines what an object's data fields and methods will  
be.\n";
```

```
String q8 = "What is an array?\n"  
        + "(a)Numbers of items ArrayList can store without increasing its  
size\n(b)Number used as an index to pinpoint a specific element within an  
array\n(c)Object that can store a group of values, all of the same  
type\n(d)Method of locating a specific item in a larger collection of data\n";
```

```
String q9 = "You use this statement to throw an exception manually.\n"  
        + "(a)Throw\n(b)call stack\n(c)try block\n(d)thrown\n";
```

```
String qF = "When an exception is generated, it is said to have been what?\n"  
        + "(a)Created\n(b)Called\n(c)Thrown\n(d)Generated\n";
```

```
Question [] questions = {  
    new Question(q1, "b"),  
    new Question(q2, "a"),
```

```

        new Question(q3, "b"),
        new Question(q4, "c"),
        new Question(q5, "d"),
        new Question(q6, "a"),
        new Question(q7, "a"),
        new Question(q8, "c"),
        new Question(q9, "a"),
        new Question(qF, "c")
    };

    System.out.println("Welcome to Quiz Program");
    System.out.println("=====
=====");

    takeTest(questions,username);

    System.out.println("1. Restart the Quiz");
    System.out.println("2. Exit the Quiz");

    System.out.println("Enter your Choice");

    Scanner ans=new Scanner(System.in);
    int response=ans.nextInt();

    switch(response)
    {

        case 1 :
            takeTest(questions,username);
            break;
        case 2:
            break;
        default:
            break;
    }
}
else
{

    System.out.println("invalid login");

```

```
}
```

```
}
```

```
public static void takeTest(Question [] questions,String user)
{
    int score = 0;
    Scanner keyboardInput = new Scanner(System.in);

    int[] array = { 0,1,2,3,4,5,6,7,8,9 };

    Random rand = new Random();

    for (int i = 0; i < array.length; i++) {
        int randomIndexToSwap = rand.nextInt(array.length);
        int temp = array[randomIndexToSwap];
        array[randomIndexToSwap] = array[i];
        array[i] = temp;
    }

    for(int i = 0; i < questions.length; i++)
    {
        System.out.print(i+1);
        System.out.print(". ");
        System.out.println(questions[array[i]].prompt);
        String answer = keyboardInput.nextLine();
        if(answer.equals(questions[array[i]].answer))
        {
            score++;
            System.out.println("*****Feedback:Your Answer is
true*****");
        }
    }
}
```

```

        else
        {
            System.out.println("*****Feedback:oh !!! no your answer is
wrong*****");

        }
        System.out.println("=====
=====");
    }
    System.out.println("*****
*****");

    System.out.print("Hi  " +user);
    System.out.println("  You score is =====>" + score + "/" +
questions.length);
    System.out.println("*****
*****");
}}

```

```

    class Question{
    String prompt;
    String answer;

    public Question(String prompt, String answer) {
        this.prompt = prompt;
        this.answer = answer;
    }
}

```

Pseudo Code

```

function main()

    step 1 start

    step 2 create a hashmap to store username and password

    step 3 ask username from user and ask password from user

```

step 4 if username and password is match then start the quiz

step 5 otherwise display message "invalid login"

step 6 initialize the 10 String type variable and store the complete question with answer option in it.

step 7 create a one class names Question

step 8 create a array of type Question

step 9 initialize this array with Question with true answer

step 10 call the function takeTest(array of Question,username)

step 11 now display two option after quiz has finished 1.
Restart the Quiz 2. Exit the Quiz

step 12 take the choice from user and do according

step 13 end

function takeTest(array of Questions ,username of user)

step 1 start

step 2 create a array of 10 integer variable for shuffling

step 3 Create a object of Random class to generate random number

step 4 initialize i=0 use for loop until i<length of array

step 5 Generate the random number using Random class

step 6 now shuffle the value in the array

step 7 go to step no 4 until all values are not visited

step 8 initialize for loop with i=0 and go to i=9

step 9 using `system.out.println` function display the question one by one on console

step 10 now ask user to enter the answer of the above question

step 11 if answer is true then give feedback to user "your answer is true" and increment the score value by one

step 12 otherwise give feedback to user "your answer is false"

step 13 after all the question is display on console print the final score on the console

step 14 end

Outputs

```
PS C:\Users\Ravi> & 'C:\Program Files\jdk-19_windows-x64_bin\jdk-19.0.1\bin\java.exe' '--enable-preview' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Ravi\AppData\Local\Temp\vscode\ws_e5632\jdt_ws\jdt.ls-java-project\bin' 'Quiz1'
Enter username
ravikumar
Enter the password
panchal
invalid login
PS C:\Users\Ravi> & 'C:\Program Files\jdk-19_windows-x64_bin\jdk-19.0.1\bin\java.exe' '--enable-preview' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Ravi\AppData\Local\Temp\vscode\ws_e5632\jdt_ws\jdt.ls-java-project\bin' 'Quiz1'
Enter username
ravi
Enter the password
abcd
=====Hi!! welcome ravi=====
```

```
Welcome to Quiz Program
=====
1. What is a loop that never stops?
(a)For Loop
(b)Infinite Loop
(c)Do-While Loop
(d)Full Loop

a
*****Feedback:oh !!! no your answer is wrong*****
=====
2. What special value is designated for controlling a loop?
(a)Control value
(b)Mutator Method
(c)Accessor Method
(d)Sentinel Value

a
*****Feedback:oh !!! no your answer is wrong*****
```

Figure 1 Output Screen of result

```
=====
3. What is an array?
(a)Numbers of items ArrayList can store without increasing its size
(b)Number used as an index to pinpoint a specific element within an array
(c)Object that can store a group of values, all of the same type
(d)Method of locating a specific item in a larger collection of data

a
*****Feedback:oh !!! no your answer is wrong*****
=====
4. When an exception is generated, it is said to have been what?
(a)Created
(b)Called
(c)Thrown
(d)Generated

a
*****Feedback:oh !!! no your answer is wrong*****
=====
5. In a while loop, if the boolean expression is true, what will the loop do?
(a)Break
(b)Program will exit
(c)Repeat
(d)Continue through program

a
*****Feedback:oh !!! no your answer is wrong*****
=====
6. What is an object?
(a)Representation of an entity in the real world that can be distinctly identified
(b)A static method can be called without creating an instance of the class
(c)Instance variable/instance method
(d)A template, blueprint or contract that defines what an object's data fields and methods will be.

a
*****Feedback:Your Answer is true*****
```


Figure 2 Output Screen of result

```
=====
7. You use this statement to throw an exception manually.
(a)Throw
(b)call stack
(c)try block
(d)thrown

b
*****Feedback:oh !!! no your answer is wrong*****
=====
8. What is a method?
(a)A collection of statements grouped together to perform an operation
(b)A value returned from a method using the return statement
(c)The portion of the program where the variable can be accessed.
(d)The combination of the name of a method and the list of its parameters

c
*****Feedback:oh !!! no your answer is wrong*****
=====
9. What does counter++; do?
(a)Adds 1 to counter
(b)Adds 2 to counter
(c)Gets the sum
(d)Multiplies the numbers

d
*****Feedback:oh !!! no your answer is wrong*****
=====
10. What is hardware?
(a)virtual machine
(b)the physical machine
(c)applications such as browsers
(d)part of the processor

c
*****Feedback:oh !!! no your answer is wrong*****
```

Figure 3 Output Screen of result

```
*****Feedback:oh !!! no your answer is wrong*****
=====
Hi ravi You score is ----->1/10
*****
1. Restart the Quiz
2. Exit the Quiz
Enter your Choice
2
PS C:\Users\Ravi> |
```

Figure 4 Output Screen of result