Q1.

Code:

package Q\_01;  
  
public class Q\_01 {  
 public static void main(String[] args) {  
 int count = 10;  
 for (int i=0; i<4; i++) { // 4 rows  
 for (int j=0; j<10; j++) { // 10 columns  
 System.*out*.print(count+" ");  
 count++;  
 }  
 System.*out*.print("\n"); // Move to the next line after printing 10 numbers  
 }  
 }  
}

Output:

A number on a black background

AI-generated content may be incorrect.

Q2.

Code:

package Q\_02;  
  
import java.util.Scanner;  
  
public class Q\_02 {  
 public static void main(String[] args) {  
 //Create a Scanner object to read input  
 Scanner scanner = new Scanner(System.*in*);  
 int input = 0;  
 while (input >= 0) { //Keep reading until a negative number is entered  
 System.*out*.println("Please enter a number: ");  
 // Read the input number  
 input = scanner.nextInt();  
  
 if (input < 0) {  
 System.*out*.println("Negative number entered.");  
 break; // Exit the loop if a negative number is entered  
 }  
 // Output the number of digits in the input number  
 System.*out*.println(input + " has " + *noOfDigits*(input) + " digits");  
 }  
 }  
 public static int noOfDigits(int input) {  
 int count = 0;  
 //Count the number of digits in the input number  
 while (input > 0) {  
 input /= 10;  
 count++;  
 }  
 return count;  
 }  
}

Output:

A screenshot of a computer program

AI-generated content may be incorrect.

Q3.

Code:

package Q\_03;  
  
import java.util.Scanner;  
  
public class Q\_03 {  
 public static void main(String[] args) {  
 //Create a scanner object to read input  
 Scanner scanner = new Scanner(System.*in*);  
 System.*out*.println("Please enter a number for n: ");  
 // Read the input number  
 int n = scanner.nextInt();  
 // Output the multiplication table for the input number  
 for (int i=0; i<10; i++) {  
 System.*out*.println(n+"x"+(i+1)+" = "+(n\*(i+1)));  
 }  
 }  
}

Output:

A screenshot of a computer

AI-generated content may be incorrect.

Q4.

Code:

package Q\_04;  
  
import java.util.Scanner;  
  
public class Q\_04 {  
 public static void main(String[] args) {  
 // Create a scanner object to read input  
 Scanner scanner = new Scanner(System.*in*);  
 System.*out*.println("Please enter a number of rows of the pyramid: ");  
 // Read the number of rows for the pyramid  
 int rows = scanner.nextInt();  
 // Output the pyramid pattern  
 for (int i = 1; i <= rows; i++) {  
 for (int j = rows; j > i; j--) {  
 System.*out*.print(" ");  
 }  
 for (int k = 1; k <= (2 \* i - 1); k++) {  
 System.*out*.print("\*");  
 }  
 System.*out*.print("\n");  
 }  
  
 }  
}

Output:

A black screen with white text

AI-generated content may be incorrect.

Q5.

Code:

package Q\_05;  
  
import java.util.Scanner;  
  
public class Q\_05 {  
 public static void main(String[] args) {  
 //Create a scanner object to read input  
 Scanner scanner = new Scanner(System.*in*);  
 System.*out*.println("Enter a word, phrase, number or sequence of characters:");  
 // Read the input string  
 String input = scanner.nextLine();  
 // Call the reverseString method to reverse the input string  
 String reverse = *reverseString*(input);  
  
 // Check if the input is a palindrome  
 if ( input.equals(reverse) ) {  
 System.*out*.println("The input '"+input+"' is a palindrome.");  
 } else  
 System.*out*.println("The input '"+input+"' is not a palindrome.");  
 }  
 public static String reverseString(String input) {  
 // Use recursion to reverse the string  
 if (input.isEmpty())  
 return input;  
 else  
 return *reverseString*(input.substring(1)) + input.charAt(0);  
 }  
}

Output:

A screen shot of a computer

AI-generated content may be incorrect.

Q6.

Code:

package Q\_06;  
  
import java.util.Random;  
import java.util.Scanner;  
  
public class Q\_06 {  
 public static void main(String[] args) {  
 // Create a scanner object to read input  
 Scanner scanner = new Scanner(System.*in*);  
 // Create a random number object  
 Random random = new Random();  
 // Generate a random number between 1 and 100  
 int randomNumber = random.nextInt(100) + 1; // Random number between 1 and 100  
 System.*out*.println("Guess a number between 1 and 100:");  
 // Read the user's guess  
 int guess = scanner.nextInt();  
  
 // Loop until the user guesses the correct number  
 while (guess != randomNumber) {  
 if (guess < randomNumber)  
 System.*out*.println("Try again (hint: higher):");  
 else  
 System.*out*.println("Try again (hint: lower):");  
 guess = scanner.nextInt();  
 }  
 // Output the correct guess  
 System.*out*.println("Congratulations! You guessed the number " + randomNumber + " correctly.");  
 }  
}

Output:

A screenshot of a computer program

AI-generated content may be incorrect.

Q7.

Code:

package Q\_07;  
  
import java.util.Scanner;  
  
public class Q\_07 {  
 public static void main(String[] args) {  
 // Create a scanner object to read input  
 Scanner scanner = new Scanner(System.*in*);  
 System.*out*.println("Please enter a sentence: ");  
 // Read the input sentence  
 String sentence = scanner.nextLine();  
 System.*out*.println("Please enter a word to be replaced: ");  
 // Read the word to be replaced  
 String word = scanner.nextLine();  
 System.*out*.println("Please enter a word to replace with: ");  
 // Read the word to replace with  
 String replace = scanner.nextLine();  
  
 // Find the first occurrence of the word in the sentence  
 int location = sentence.indexOf(word);  
 // Find the word length  
 int wordLength = word.length();  
 String temp = sentence;  
  
 // Replace all occurrences of the word in the sentence  
 while (location >= 0) {  
 temp = sentence.substring(0,location)+replace+sentence.substring(location+wordLength);  
 location = temp.indexOf(word);  
 sentence = temp;  
 }  
 // Output the modified sentence  
 System.*out*.println(temp);  
  
 }  
}

Output:

A screenshot of a computer program

AI-generated content may be incorrect.