

1. Write a program to read a string s from keyboard, and print out if this string contains digits 0-9 only (i.e., print out true or false). No need for validation check of string.
2. Write a program to read a single character c and a String s from the keyboard, and count how many times this character appears in the String that the user enters. For example, if given string is “Hello, how are you! What’s up!” and given character is ‘h’ (NOT ‘H’), the result is 2. Assume that the user always gives valid input.
3. Write a program to read a (valid) String s from the keyboard, and print out if this string is palindrome (i.e., a word that reads the same in both directions). For instance, if the input is “deed” or “radar”, the output is true; if the input is “dead”, the output is false.
4. Write a program to read a String s from the keyboard, and replace the space ‘ ’ in the string with “%20”. For example, if given string is “Java is great”, the result is “Java%20is%20great” and will be displayed on screen.
5. Write a program to read 10 Strings from the keyboard, and display both the longest and the shortest (string) at the end. Assume that there is no empty string and each string has different length. (Hint: an extra array is needed, why and what array?)
6. (Bonus) Write a program to read a (valid) String s from the keyboard, then to display the first non-repeated character (i.e., the first character that appears in the string once and only once). For instance, if given string is “WOOWHAT” it will print out ‘H’. If there is no such character such as string “WOOW”, display the message “no such character” on the screen.

<p>Scanner</p> <pre>import java.util.Scanner; Scanner scan = new Scanner(System.in); int num = scan.nextInt(); double d = scan.nextDouble(); String s = scan.nextLine(); String s = scan.next ();</pre>	<p>String</p> <pre>String s = new String("hello"); String s = "hello"; char c = s.charAt(2); String sub = s.substring(2, s.length()); String sub = s.substring(2); int index = s.indexOf("ice"); int len = s.length(); s1.equals(s2);</pre>
<p>Array syntax</p> <pre>int x = new int[4]; int x = {5, 9, 20, 2}; x[x.length-1] = 5;</pre>	<p>Math</p> <pre>double d = Math.sqrt(5.2); double mult = Math.pow(3.2, 2.0); double twoPi = 2 * Math.PI; int min = Math.min(2,7); int max = Math.max(2,7);</pre>

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1 import java.util.Scanner;
2
3 public class CIS1068_quiz5{
4 public static void main(String [] args){
5     Scanner kb = new Scanner(System.in);
6     String s;
7     boolean flag;
8
9     System.out.println("This is quesiton 1");
10    s = kb.nextLine();
11    flag = true;
12
13    for(int i = 0; i<s.length() && flag; i++){
14        char ch = s.charAt(i);
15        if(ch<'0' || ch>'9')flag = false;
16    }
17    System.out.println(flag);
18
19    System.out.println("This is quesiton 2");
20    s = kb.nextLine();
21    char c = kb.nextLine().charAt(0);
22    int count = 0;
23
24    for(int i = 0; i<s.length(); i++){
25        char ch = s.charAt(i);
26        if(ch==c) count++;
27    }
28    System.out.println(count);
29
30    System.out.println("This is quesiton 3");
31    s = kb.nextLine();
32    flag = true;
33
34    for(int i = 0; i<s.length()/2 && flag; i++){
35        char ch = s.charAt(i);
36        char ch2 = s.charAt(s.length()-i-1);
37        if(ch!=ch2) flag=false;
38    }
39    System.out.println(flag);
40
41    System.out.println("This is quesiton 4");
42    s = kb.nextLine();
43    String result = "";
44    for(int i=0; i<s.length(); i++)
45        if(s.charAt(i)==' ')result+="%20";
46        else result+=s.charAt(i);
47    System.out.println(result);
48
49

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50 System.out.println("This is quesiton 5");
51 int size = 10;
52 String [] rec = new String [size];
53 rec[0]= kb.nextLine();
54
55 int max, min;
56 max = min = rec[0].length();
57 int pmax=0, pmin=0;
58
59 for(int i = 1; i<size; i++){
60     rec[i] = kb.nextLine();
61     if(rec[i].length()>max) {
62         max = rec[i].length();
63         pmax = i;
64     }
65     if(rec[i].length()<min) {
66         min = rec[i].length();
67         pmin = i;
68     }
69 }
70 System.out.println("Longest: "+rec[pmax]);
71 System.out.println("Shortest: "+rec[pmin]);
72
73 System.out.println("This is quesiton 6");
74 s = kb.nextLine();
75 int [] pos = new int [s.length()];
76 int r;
77
78 for(int i = 0; i<s.length(); i++){
79     char ch = s.charAt(i);
80     for(int j = i+1; j<s.length(); j++){
81         char ch2 = s.charAt(j);
82         if(ch == ch2) {
83             if(pos[i]==0) pos[i]=1;
84             if(pos[j]==0) pos[j]=1;
85         }
86     }
87 }
88 for(r = 0; r<s.length() && pos[r]==1; r++);
89 if(r<s.length()) System.out.println(s.charAt(r));
90 else System.out.println("character not found.");
91
92 }
93 }

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