

CATH CON 2020 Questions

Junior Category Answers:

Silly String

```
import java.util.*;
class SillyString
{
    public static void main(String[] args)
    {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter String");
        String s = sc.nextLine();
        int maxl = 0;
        String maxp = "";
        for(int x = 1; x<=s.length(); x++)
        {
            for(int i = 0; i<s.length()-x+1; i++)
            {
                String sub = s.substring(i,i+x);
                if(isPalindrome(sub))
                {
                    maxl = x;
                    maxp = sub;
                }
            }
        }

        System.out.println(maxl);
        System.out.println(maxp);
    }

    private static boolean isPalindrome(String s)
    {
        if(s.equals(reverse(s)))
        {
            return true;
        }

        return false;
    }

    private static String reverse(String s)
```

```

    {
        String rev = "";
        for(int i = s.length()-1; i>=0; i--)
        {
            rev+=s.charAt(i);
        }

        return rev;
    }
}

```

Mind your Language

```

import java.util.*;
class MindYourLanguage
{
    public static void main(String[]args)
    {
        Scanner sc = new Scanner(System.in);
        String s = sc.nextLine();
        String w = sc.nextLine();
        int wl = w.length();
        for(int i = 0; i<=s.length()-w.length(); i++)
        {
            String x = s.substring(i,i+wl);
            if(x.equalsIgnoreCase(w))
            {
                x = x.charAt(0) + putAst(x) + x.charAt(x.length()-1);
            }
            s = s.substring(0,i) + x + s.substring(i+wl);
        }

        System.out.println(s);
    }

    static String putAst(String s)
    {
        String x = "";
        for(int i = 1; i<s.length()-1; i++)
        {
            x+="*";
        }

        return x;
    }
}

```

```
    }  
}
```

Union

```
import java.util.*;  
class Union  
{  
    public static void main(String[] args)  
    {  
        Scanner sc=new Scanner(System.in);  
        System.out.println("Enter size of array 1");  
        int n = sc.nextInt();  
        int arr1[]= new int[n];  
        System.out.println("Enter array 1");  
        for(int i=0;i<arr1.length;i++)  
        {  
            arr1[i]=sc.nextInt();  
        }  
        System.out.println("Enter size of array 2");  
        n = sc.nextInt();  
        int arr2[]= new int[n];  
        System.out.println("Enter array 2");  
        for(int i=0;i<arr2.length;i++)  
        {  
            arr2[i]=sc.nextInt();  
        }  
        int i = 0;  
        int j = 0;  
        int c = 0;  
        for(; i<arr1.length; i++)  
        {  
            for(j=0; j<arr2.length; j++)  
            {  
                if(arr1[i] == arr2[j])  
                {  
                    c++;  
                }  
            }  
        }  
  
        int un[] = new int[arr1.length + arr2.length - c];  
        int k = 0;  
        for(i=0; i<arr1.length; i++,k++)
```

```

        {
            un[k] = arr1[i];
        }

        for(i=0; i<arr2.length; i++,k++)
        {
            boolean g = true;
            for(j=0; j<un.length; j++)
            {
                if(arr2[i] == un[j])
                {
                    g=false;
                }
            }
            if(g)
            {
                un[k] = arr2[i];
            }
            else
            {
                k--;
            }
        }

        for(i = 0; i<un.length; i++)
        {
            System.out.println(un[i]);
        }
    }
}

```

Spin the Box

```

import java.util.*;
class SpinTheBox
{
    public static void main(String[] args)
    {
        Scanner sc = new Scanner(System.in);
        int n = sc.nextInt();
        int arr[][] = new int[n][n];
        int i = 0;
        int j = 0;
        for(i = 0; i<n; i++)

```

```

    {
        for(j = 0; j<n; j++)
        {
            arr[i][j] = sc.nextInt();
        }
    }

    int spin[][] = new int[n][n];

    for(i = 0; i<n; i++)
    {
        int a = n-i-1;
        for(j = 0; j<n; j++)
        {
            spin[j][a] = arr[i][j];
        }
    }

    for(i = 0; i<n; i++)
    {
        for(j = 0; j<n; j++)
        {
            if(j<n-1)
            {
                System.out.print(spin[i][j] + "\t");
            }
            else
            {
                System.out.print(spin[i][j]);
            }
        }
        System.out.println();
    }
}

```