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import java.util.Arrays;

public class binary {
    public static void main(String[] args){
        String x = convertToBinary("A is for Alpha; B is for Bravo; C is for
Charlie.");
        String y = binarySearch(x);
        // System.out.println(y);
        String z = convertToOctal(y);
        //System.out.println(z);
        String a = octalSearch(z);
        //System.out.println(a);
        int b = convertToDecimal(a);
        System.out.println(b);

    }

    public static String convertToBinary(String s) {

        char[] chars = s.toCharArray();
        String ascii = "";
        for (int i = 0; i < chars.length; i++){

            ascii += String.format("%8s", Integer.toBinaryString((int)
chars[i])).replace(" ", "0");

        }

        //System.out.println(ascii);

        return ascii;

    }

    public static String binarySearch(String s){
        boolean found = true;
        int num = 0;
        String sub = "";
        while (found) {
            sub = Integer.toBinaryString(num);
            if (s.indexOf(sub) == -1){

                found = false;
                return s;
            }

            else if (s.indexOf(sub) != -1){
                s = s.substring(0, s.indexOf(sub)) +
                    s.substring(s.indexOf(sub) + sub.length());
            }
        }
    }
}

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        if ( s.lastIndexOf(sub) != -1){
            s = s.substring(0, s.lastIndexOf(sub)) +
                s.substring(s.lastIndexOf(sub) + sub.length());
        }

    }

    num++;

}

return s;

}

public static String convertToOctal(String s){
    String oct = "";
    if (s.length() % 3 == 1){s = "00" + s;}
    else if (s.length() % 3 == 2){s = "0" + s;}

    for (int i = s.length(); i > 2; i -= 3){
        String a = s.substring(i-3,i);

        int b = 0;
        for ( int j = 0; j < 3; j++){
            b += Integer.valueOf(a.substring(j, j+1))*Math.pow(2, 2-j);

        }
        oct = String.valueOf(b) + oct;
    }

    while (true) {
        //System.out.println(oct.substring(0, 1));
        if (oct.substring(0, 1) == "0"){
            oct = oct.substring(1);
            continue;
        }
        else{break;}
    }
}

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        return oct;
    }

    public static String octalSearch(String s){
        boolean found = true;
        int num = 0;
        String sub = "";
        while (found) {
            sub = convertToOctal(Integer.toString(num));
            if (s.indexOf(sub) == -1){

                found = false;
                return String.valueOf(Integer.valueOf(sub)-1);
            }

            else if (s.indexOf(sub) != -1){
                s = s.substring(0, s.indexOf(sub)) +
                    s.substring(s.indexOf(sub) + sub.length());

                if ( s.lastIndexOf(sub) != -1){
                    s = s.substring(0, s.lastIndexOf(sub)) +
                        s.substring(s.lastIndexOf(sub) + sub.length());
                }

            }

            num++;

        }

        return sub;
    }

    public static int convertToDecimal(String s){
        return Integer.parseInt(s, 8);
    }
}

```