Question 14

A simple encryption system uses a shifting process to hide a message. The value of the shift can be in a range of 1 to 26 (otherwise, error invalid shift value should be appear).

For example shift 7 means that A=U, B=V, C=W and so on

Text : A B C D E F G H I J K I M N O P Q R S T U V W X Y Z
Code:U V W X Y Z A B C D E F G H I J K L M N O P Q R S T

An extra space is added to the end of the string. To make things a little more difficult, spaces within the original text are replaced with QQ before the text is encrypted. Double Q (QQ) was selected because no English word ends with Q or QQ.

Write a program that takes the coded text (less than 100 characters) and the shift value and print the decoded original text. Assume all the characters are in upper case.

Input coded text :   UHINBYLKKQCHHYLKK
Shift   : 7
Decoded text   : ANOTHER WINNER

Input coded text : RUIJGGEVGGBKSAGG
Shift   : 11
Decoded text   : BEST OF LUCK

Input coded text : RUIJGGEVGGBKSAGG
Shift   : 29
Output   : Invalid shift value.

Solution:

```java
import java.util.*;
class encryption_with_shift
```

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```java
{
public static void main()
{
    Scanner sc =new Scanner(System.in);
    int i,l,a=0,s;
    String str1,str2="";
    char chr;
    System.out.println("Enter coded text:");
    str1=sc.nextLine();
    System.out.println("Enter shift value:");
    s=sc.nextInt();
    if(s<1 ||s>26)
    System.out.println("Invalid shift value");
    else
    {
      l=str1.length();
      for(i=0;i<l;i++)
      {
        chr=str1.charAt(i);
        a=(int)chr+(s-1);
        if((char)a=='Q')
        {
          if(str1.charAt(i+1)+(s-1)=='Q' && i<l)
          {
            a=32;
            i++;
          }
        }
        if(a>90)
        a=a-26;
        str2=str2+(char)a;
      }
    }
    System.out.println("Decoded text : "+str2);
}
}
}
```

65 = A
66 = B
67 = C
68 = D
69 = E
70 = F
71 = G
72 = H
73 = I
74 = J
75 = K
76 = L
77 = M
78 = N
79 = O
80 = P

81 = Q
82 = R
83 = S
84 = T
85 = U
86 = V
87 = W
88 = X
89 = Y
90 = Z

... ional Espionage is trying to decode