Decode the message   —   2325

key =

t	h	e			a	b	g		✗

↓ ↓ ↓   ↓ ↓ ↓   ↓
a b c   d e f   not mapped

message
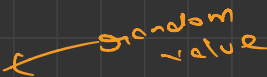
```
    d o g
   ↙ ↓ ↓
  a  b  c
```

---

key =   the quick brown   fox   jumps   over   fox
        ↙↓↓ ↓↓↓↓↓ ↓↓↓↓↓ ↓↓↓ ↓↓↓↓↓ ↓↓↓↓ ↓↓↓
        a b c defgh ijklm nko   peqrs ktcj ukv

Message =)   xbsu   vit
              ↓↓↓↓   ↓↓↓
              t i s e t f a

Approch →   ① Create mapping

              ② use mapping   decode

```
// create mapping

    char Start = 'a'          ←────── @random
                                           value
    char mapping [280];

    for ( auto ch : key )
    {
        if ( ch != " " && mapping[ch]==0)
        {
            mapping[ch] = Start;
            Start ++;
        }
    }


// use mapping

  String ans;

  for ( auto ch : message)
  {
      if ( ch == ' ')
            ans.push_back ( ' ');
      else
      {
          char decode = mapping[ch];
          ans.push_back (decode);
      }
  }

  return ans;
```

e l j u x h p w n y a d g t z k v i s z c f m a b o
a b c d e f g h i j k l m n o p q r s t u v w x y z

Message → z w x   h n f x   l q a n t p   y e g k
          t h e   f i v e   b o x i n g   j u m p

Map   Chan   Size => 255

| | | m | | |
0 1 2 3 · · · · · · · · 103 · · · · · · · · 250 · · · 255

int start = 'a' ; => 'm'

for (int i =0 ; i< key.length() ; i++) => i = 12
  {
    if (key[i] != "   " && map[key[i]] == 0)
      {
        map[key[i]] = start ;
        start++ ;
      }
  }

key(12) = 'g'

Ascii
g -> 103

map[key[i]] => map[key[12]]

map['g']   => map[103]

map[103] = start   => 'm'