AIM: To implement Rail fence Technique

Program

```
importjavax.swing.JOptionPane;
public class RailFence
{
public static void main(String[] args)
   {
      // TODO code application logic here
      String plain_text;
                  int key;
                  String cipher1,cipher2;
                  plain_text=JOptionPane.showInputDialog("Input the string to encrypt:");
                  key = Integer.parseInt(JOptionPane.showInputDialog("Input the key:"));
                  cipher1=encrypt(plain_text,key);
                  JOptionPane.showMessageDialog (null, "Cipher Text is   " + cipher1, "Encryption
Process", JOptionPane.PLAIN_MESSAGE);
                  cipher2=decrypt(cipher1,key);
                  JOptionPane.showMessageDialog (null, "Plain Text is  " + cipher2, "Decryption Process",
JOptionPane.PLAIN_MESSAGE);
   }
public static String encrypt(String plainText,int depth)
         {
                  int r=depth,len=plainText.length();
                  int c=len/depth;
                  char mat[][]=new char[r][c];
                  int k=0;
                  String cipherText="";
                  for(int i=0;i<c;i++)
                  {
                           for(int j=0;j<r;j++)
                           {
                                    if(k!=len)
                                             mat[j][i]=plainText.charAt(k++);
                                    else
                                             mat[j][i]='X';
                           }
                  }
                  for(int i=0;i<r;i++)
                  {
                           for(int j=0;j<c;j++)
                           {
                                    cipherText+=mat[i][j];
                           }
                  }
                  returncipherText;
         }

         public static String decrypt(String cipherText,int depth)
         {
                  int r=depth,len=cipherText.length();
                  int c=len/depth;
                  char mat[][]=new char[r][c];
                  int k=0;
                  String plainText="";
                  for(int i=0;i<r;i++)
```

```
                {
                        for(int j=0;j<c;j++)
                        {
                                mat[i][j]=cipherText.charAt(k++);
                        }
                }
                for(int i=0;i<c;i++)
                {
                        for(int j=0;j<r;j++)
                        {
                                plainText+=mat[j][i];
                        }
                }
                returnplainText;
        }
}
```

Output: