```
 1 "C:\Program Files\Eclipse Adoptium\jdk-17.0.5.8-
   hotspot\bin\java.exe" "-javaagent:C:\Program Files\
   JetBrains\IntelliJ IDEA 2023.1\lib\idea_rt.jar=54034:
   C:\Program Files\JetBrains\IntelliJ IDEA 2023.1\bin
   " -Dfile.encoding=UTF-8 -classpath C:\Users\Conne\
   Documents\000Vaults\SecondBrain\academia\CS228\
   Homework\HW4\Conner_Ohnesorge_HW4\out\production\
   Conner_Ohnesorge_HW4;C:\Users\Conne\Documents\
   000Vaults\SecondBrain\academia\CS228\Homework\HW4\
   Conner_Ohnesorge_HW4\lib\junit-jupiter-5.8.1.jar;C:\
   Users\Conne\Documents\000Vaults\SecondBrain\academia\
   CS228\Homework\HW4\Conner_Ohnesorge_HW4\lib\junit-4.
   13.1.jar edu.iastate.cs228.hw4.MsgTree
 2 Please enter filename to decode: HW4S2023_Test_Files/
   twocities.arch
 3 character    code:
 4 ------------------------
 5            00
 6 e         010
 7 h         0110
 8 g         011100
 9 d         011101
10 k         01111000
11 I         01111001
12 y         01111010
13 u         01111011
14 l         011111
15 a         1000
16 ,         10010
17 b         1001100
18 m         1001101
19 p         100111
20 o         1010
21 i         1011
22
23            110000
24 c         1100010
25 .         1100011
26 f         11001
27 r         110100
28 n         110101
```

```
29 w        11011
30 s        1110
31 t        1111
32 ------------------------
33 MESSAGE:
34 It was the best of times, it was the worst of times,
   it was
35 the age of wisdom, it was the age of foolishness, it
   was the
36 epoch of belief, it was the epoch of incredulity, it
   was the
37 season of light, it was the season of darkness, it
   was the
38 spring of hope, it was the winter of despair...
39
40 STATISTICS:
41 Avg bits/char:  4.0
42 Total Characters:   290
43 Space Saving:   75.3%
44
45 Process finished with exit code 0
46
```