Data Structure Assignment 3 Open Source的使用 Guide

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1 System architecture

Compiler: Visual Studio Code

Version: 1.74.0

OS: Windows_NT x64 10.0.22000

Building environment: Windows 10 Linux Subsystem(WSL2)

Release: Ubuntu 20.04 LTS

Kernel: Linus 5.10.16.3-microsoft-standard-WSL2

Extensions

gcc version: 9.3.0 gdb version: 9.2 git version: 2.25.1

2 Build Guide

Arithemtic coding使用CMake與Makefile編譯程式。 Huffman coding使用Makefile編譯程式。

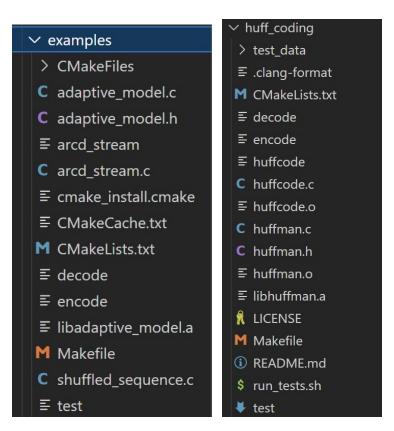


Figure 1: Result of Makefile

3 Execute Guide

本次測試文件為網路上隨機生成之短文, 含空格共336字元(無換行), 全文如下:

The system should not require more than a few days of supervision to learn. It should be usable on modestly priced computer systems. Most of all, it should be simple and convenient for the users. The current system is not meeting business objectives because they are not able to tracks the servicing of the vehicles at Huffman Trucking.

Figure 2: test file

下圖為Arithemtic coding的運行結果,詳細指令請見README。

Figure 3: Arithemtic Encoding

```
bingchen@LAPTOP-34JN212B:~/110503518_assignment_4/Data_Stru
ctures_Assignment4/arcd/examples$ ./arcd_stream -d <encode
| tee decode
The system should not require more than a few days of super
vision to learn. It should be usable on modestly priced com
puter systems. Most of all, it should be simple and conveni
ent for the users. The current system is not meeting busine
ss objectives because they are not able to tracks the servi
cing of the vehicles at Huffman Trucking.
the coding time is 0.000061 sec.</pre>
```

Figure 4: Arithemtic Decoding

下圖為Huffman coding的運行結果,詳細指令請見README。

```
    ures_Assignment4/huffman$ ./huffcode -i test -o encode -c
    the coding time is 0.000066 sec.
    bingchen@LAPTOP-34JN212B:~/110503518_assignment_4/Data_Struct
    ures_Assignment4/huffman$ ./huffcode -i encode -o decode -d
    the coding time is 0.000029 sec.
```

Figure 5: Huffman Encoding and Decoding