Comp 335 - File Structures

Programming Assignment 2

Due Date: Sunday, Sept 24, 2017 @ 11:55pm

Late Deadline: Tuesday, Sept 26, 2017 @ 11:55pm (half-credit)

50 pts

Hex Dump

Program Name: ***Hexdump.cpp***

You are to write a C++ program which will produce an output hexadecimal dump of a file. The format of the output should conform to the examples given you. The first line of the output file should contain the name of the file you produced the dump on. Following this is the actual dump of the file given 16 bytes at a time on a line.

The name of the file to be dumped should be obtained from a query from your program. If the file does not exist, the program should exit with an error message indicating such. The program is to handle only one file.

Each line of the dump should have:

- The offset address from the beginning of the file in hexadecimal.
- A 16 byte dump given one byte at a time in hexadecimal.
- At the end of each line, the printable ASCII characters of each byte should be displayed. (Non-printable characters (ASCII decimal values) {0..31,127..255) should have a . (period) printed in it's position.).

The output dump physical file should be named in the following manner; use the file name of the input file given and then append the extension .dmp. For example, if you dumped the file numbers.dat, the dump of this file would be numbers.dmp; if you dumped the file c:\programs\scud.dat, then the dump file would be c:\programs\scud.dmp. Notice that the dump file should be placed wherever it's corresponding source is located. Assume that a file may not have an extension such as .cpp or .exe.

Method of turning in your assignment

You will use EASEL to turn in your assignment.

Other Info

C++ will allow you to manipulate an output text stream and force hexadecimal output using the hex manipulator. Consult a C++ manual or the compiler help for more information. Here is a small example:

```
int x = 13;
cout << hex << x;   //force output to be in hexadecimal instead of  the default which is decimal
```

Also:

- **When reading a byte into a c++ variable, use an unsigned char type**
- **To get the byte value of a byte, use an assignment statement such as val = byte where val is an int and byte is an unsigned char.**
- **\\cs1\classes\comp335\hexdump has a few examples you can use to verify your output. This location also has example code to read bytes from a file and output each byte in hexadecimal.**