WESTERN UNIVERSITY
Computer Science 3357a – Fall 2015
Assignment 1 Marking Scheme

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Client (35%)

Criterion	Mark	Out Of	Comments
Compilation and Execution			
If code does not compile or run properly, read the code and mark as much as you can.	**0**	Compiles/runs successfully: **0** Wholly incorrect output/crashes often: **-13** Compiles; crashes immediately: **-20** Does not compile: **-24**	
Makefile			
`Makefile` provided	**1**	**1**	
Builds code simply by typing `make`	**1**	**1**	
Builds executable named `client`	**1**	**1**	
`Makefile` uses the `--Wall` and `--Werror` flags when compiling code (if they have defined `CFLAGS`, don't just look at its definition: make sure they're ***using*** it in their compilation commands)	**2**	**2**	
Command-Line Arguments			
Accepts directory	**1**	**1**	
Accepts output filename	**1**	**1**	
Prints error upon missing arguments	**1**	**1**	
Prints error if invalid directory given	**0**	**1**	No error message
Prints error if invalid filename given (e.g. a directory name)	**0**	**1**	SEGMENTATION FAULT
Accepts directory given without trailing slash	**2**	**2**	
Accepts directory given with trailing slash	**2**	**2**	

Criterion	Mark	Out Of	Comments
Output			
Writes to output file specified on command line	**1**	**1**	
Overwrites existing output file (does not append to file)	**1**	**1**	
Output file in correct format (one `filename,checksum` pair per line)	**1**	**2**	Space before or after comma
Output file contains correct number of unique, non-hidden files	**4**	**4**	
Output file includes hidden files	**1**	**1**	
Output file contains correct filenames	**3**	**3**	
Output file does not contain duplicates	**2**	**2**	
Output file contains paths specified relative to the Hooli root	**3**	**3**	
Output file contains correct checksums	**3**	**3**	
Output file represents checksums in decimal	**1**	**1**	
Program prints nothing to the screen on successful execution	**1**	**1**	
Program exits with return code of `0` on successful execution (`EXIT_SUCCESS`)	**1**	**1**	
Program exists with return code of `1` on failed execution (`EXIT_FAILURE`)	**1**	**1**	
Program does not crash on single file error (e.g. permissions problem)	**1**	**2**	Return code: pid 8140 exit 1 (must be zero)
Efficiency			
Does not read entire file into memory all at once to compute checksum (look at their source)	**0**	**2**	
Does not produce memory errors (e.g. `double free or corruption`; `invalid next size`; etc.)	**2**	**2**	
Keeps output file open until directory scanning complete (does not open-write-close for each file – look at their source)	**0**	**2**	
Frees dynamically-allocated memory (run `valgrind` and check for memory leaks)	**2**	**2**	
Program is capable of handling a large directory tree	**2**	**2**	
Client Total	**42**	**50**	

libhdb (45%)

Criterion	Mark	Out Of	Comments
Compilation and Execution			
If code does not compile or run properly, read the code and mark as much as you can.	**0**	Compiles/runs successfully: **0** Had to be modified to compile/run successfully: **-10 to -20** Wholly incorrect output/crashes often: **-13** Compiles; crashes immediately: **-20** Does not compile: **-24**	
Library			
Passes unit tests	**30**	**30 (1 mark per test)**	
Makes efficient use of Redis commands (e.g. doesn't use 3 commands for an operation that only requires 1	**3**	**3**	
Does not print anything to the screen	**2**	**2**	
Did not modify `hdb.h`	**0**	**2**	4a16 > #include <hiredis/hiredis.h> 16a29,37 > // Copy a string to a returned char* and malloc for its size + 1 > char* copy_and_malloc(const char* s); > > // Function to free the individual attributes of a record node in the linked list > void free_hdb_record(hdb_record *r); > > // Function to check the redisReply for errors and print possible error message > void redisErrorCheck(redisReply *r);
Efficiency			
Frees dynamically-allocated memory (run `valgrind` and check for memory leaks)	**3**	**3**	
libhdb Total	**38**	**40**	

Style and Comments (20%)

All criteria in this section to be marked using the following scale:
Never to almost never: 0; Rarely: 1; Sometimes: 2; Usually to Always: 3

Criterion	Mark	Out Of	Comments
Comments			
Code contains inline comments allowing reader to follow algorithm	**3**	**3**	
Variable declarations commented	**3**	**3**	
Header comment in each file with the appropriate information	**3**	**3**	
Comments are descriptive and do not simply repeat what the code is saying	**3**	**3**	
Attention paid to spelling, grammar, punctuation, capitalization	**3**	**3**	
Files devoid of code that is commented out	**3**	**3**	
Style			

Uses descriptive variable names	**2**	**3**	// declare an array r for the root directory path
			char r[1024];
			// declare an array p for the previously visited directory path
			char p[1024];

Uses descriptive function names	**3**	**3**	

Uses constants instead of magic numbers	**2**	**3**	// declare an array r for the root directory path
			char r[1024];
			// declare an array p for the previously visited directory path
			char p[1024];

Functions kept to a reasonable length	**3**	**3**	
Code is modular and divided into multiple files, where appropriate	**3**	**3**	
Lines kept to a reasonable length (80 - 100 chars)	**3**	**3**	
Code is clean and well-formatted	**3**	**3**	
Appropriate use of whitespace	**3**	**3**	
Does not use global variables (give 0 here for ANY use of a global variable)	**3**	**3**	

Style and Comments Total	**43**	**45**	

Submission Errors (up to 5% off)

Criterion	Deduction	Out Of	Comments
Submission not tagged `asn1`	**0**	**-3**	
Directories `client` and `hdb` not found in root of repository	**0**	**-2**	
Submission contains disallowed files	**0**	**-1 per file (max. -3)**	
Submission missing required files	**0**	**-1 per file (max. -3)**	
Total Deductions	**0**	**Max. -5**	

Evaluation Summary

Section	Mark	Out Of	Weight	Weighted Mark (round up to nearest integer)
Client	**42**	**50**	**35%**	**30**
libhdb	**38**	**40**	**45%**	**43**
Style and Comments	**43**	**45**	**20%**	**20**
			Subtotal	**93**
			- Submission Errors (max. -5)	**0**
			- Late Penalty no penalty if submitted by 23:59:59 on October 13 10% penalty by 4 PM on October 14 do no mark after 4 PM on October 14	**0**
			Total (out of 100)	**93**

Comments