|  |  |  |
| --- | --- | --- |
| University of Texas at Dallas | CS 5348 Operating Systems Concepts  Project 2  Fall 2016 | |
| Write a C program called fsaccess.c, which, when compiled and run, will create a V6 file system, It executes in a loop until user types exit on the keyboard. Initialization of no of blocks and total no of inodes are done. Then we can copy the file from external to file system and also vice-versa, create a directory and then remove the file from the system can be performed. The execution can be terminated by using q. | | Write a C program that implement the V6 file system. |

|  |  |
| --- | --- |
| University of Texas at Dallas  Computer Science Program  CS 5348 Operating Systems Concepts  Fall 2016  Project 2 | |
| Technical Specification Document | |
|  | |
| **December 2016** | |
| **Creation Date:** | **Thursday December 1, 2016** |
| **Version:** | **1.0** |

# Document Control

## Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version** | **Author** | **Details Of Change** |
|  |  |  | |
| 12/01/2016 | 1.0 | Uday Singh & ShashankChandrashekhar | Initial Draft |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

# Table of Contents

[Document Control ii](#_Toc468384982)

[Revision History ii](#_Toc468384983)

[Table of Contents ii](#_Toc468384984)

[Document Purpose 1](#_Toc468384985)

[Summary of Requirement 1](#_Toc468384986)

[Specification 1](#_Toc468384987)

[Overview 1](#_Toc468384988)

[Technical Design Details 1](#_Toc468384989)

# Document Purpose

The purpose of this document is to define the scope and technical implementation details for CS 5348 Operating Systems Concepts Fall 2016 Project 2 .

# Summary of Requirement

To write a C program called faccess.c, which, when compiled and run, will create a V6 file system,

1. It executes in a loop until user types exit (q) on the keyboard.
2. Prints a prompt on the screen.
3. Reads the command typed on the keyboard such as number of blocks and total number of I nodes.
4. Creates a V6 file system with the defined total no of blocks and inodes.
5. Then we can move an external file into V6 file system by using cpin and vice versa by using cpout.
6. Creating a directory and also removal of the file can be performed by using the command mkdir and Rm.
7. Termination of the system can be done by using q which quits the file system.

This is a group project with two people per group. Deadline: December 1, 2016 by end of day.

Can develop and test your program on any machine but it must compile and run correctly on cs1.utdallas.edu.

# Specification

## Overview

As part of this project, the program will work for all the certain commands that are mentioned above..

# Technical Design Details

The program has been written in C, and will have to be compiled using gcc compiler in any Linux machine, which has gcc compiler. We will have to compiler the code by writing the below command in the Terminal

uday@ubuntu:~/project2$ gcc fsaccess.c

uday@ubuntu:~/project2$ ./a.out

Please type the command-->initfs 400 240

Filesystem Name ------------------>

(Super Block) isize = 15

(Super Block) fsize = 400

(Super Block) nfree = 100

Number of free blocks : 382

-----Free block list in super block-----

 18 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119

total inodes = 240

Inode - 0 is allocated

-----Printing the free list-----

nfree = 99  19 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217

-----Going to the next free list block-----

 nfree = 99  20 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315

-----Going to the next free list block-----

 nfree = 84  0 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398

Please type the command-->cpin /home/uday/proj.c /

File size = 48642

File size = 195584

filename  proj.c has bee inserted!

Please type the command-->cpout /proj.c /home/uday/test1.c

copy to file : size = 48641

copy completed.

Please type the command-->mkdir /test

directory test is created successfully

Please type the command-->rm /proj.c

File to be deleted = proj.c

Number of free blocks : 285

Remove file : size = 48641

Delete completed.

**The above results can be seen in the screen shots attached below.**



