1. Design a C program to demonstrate UNIX system calls for file management.

#include <fcntl.h>

#include <unistd.h>

#include <stdio.h>

#include <string.h>

int main() {

int fd;

char writeBuf[] = "Hello, this is a UNIX system call demo!\n";

char readBuf[100];

fd = open("demo.txt", O\_CREAT | O\_WRONLY | O\_TRUNC, 0644);

if (fd < 0) {

perror("Error opening file for writing");

return 1;

}

write(fd, writeBuf, strlen(writeBuf));

close(fd);

fd = open("demo.txt", O\_RDONLY);

if (fd < 0) {

perror("Error opening file for reading");

return 1;

}

int bytesRead = read(fd, readBuf, sizeof(readBuf) - 1);

if (bytesRead < 0) {

perror("Error reading from file");

close(fd);

return 1;

}

readBuf[bytesRead] = '\0';

close(fd);

printf("Data read from file:\n%s", readBuf);

return 0;

}