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EXERICSE-24

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

Aim:

To design a C program to demonstrate UNIX system calls for file management.

Algorithm:

1. Create and Open File:
- Use the open system call to create and open a file.
2. Write Data:
- Use the write system call to write data into the file.
3. Read Data:
- Use the read system call to read data from the file.
4. Close File:
- Use the close system call to close the file.
5. Remove File:
- Use the unlink system call to delete the file.

Procedure:

1. Create a new file using open with appropriate flags.
2. Write sample data to the file using write.
3. Read data from the file using read and display it.
4. Close the file using close.
5. Delete the file using unlink.

Code:

```
#include <stdio.h>

#include <fcntl.h>

#include <unistd.h>

int main() {

   int fd;
```

```
    char writeBuffer[] = "Hello, this is a demonstration of UNIX system calls.";
    char readBuffer[100];
    fd = open("example.txt", O_CREAT | O_RDWR, 0644);
    if (fd < 0) {
        perror("Error opening file");
        return 1;
    }
    write(fd, writeBuffer, sizeof(writeBuffer) - 1);
    lseek(fd, 0, SEEK_SET);
    read(fd, readBuffer, sizeof(writeBuffer) - 1);
    readBuffer[sizeof(writeBuffer) - 1] = '\0';
    printf("Data read from file: %s\n", readBuffer);
    close(fd);
    if (unlink("example.txt") == 0) {
        printf("File deleted successfully.\n");
    } else {
        perror("Error deleting file");
    }
    return 0;
}
```

Result:

The program successfully demonstrates UNIX system calls for file management, including file creation, writing, reading, closing, and deletion.

Output: