TITLE :
build a basic file system that supports file creating, reading, writing, and deletion using low level system calls such as open(), read(), write(), and close().
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PROGRAM :

```c
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
#include <fcntl.h>
#include <string.h>
#include <errno.h>

void create_file(const char *filename)
{

  int fd = open(filename, O_RDWR | O_CREAT, 0666);
  if (fd == -1)
  {
    perror("Error creating file");
    exit(1);
  }
  printf("File '%s' created successfully.\n", filename);
  close(fd);
}

void write_to_file(const char *filename, const char *content)
{

  int fd = open(filename, O_WRONLY);
  if (fd == -1)
  {
    perror("Error opening file for writing");
    exit(1);
  }
  ssize_t bytes_written = write(fd, content, strlen(content));
  if (bytes_written == -1)
  {
    perror("Error writing to file");
    close(fd);
```

```c
            exit(1);
        }
        printf("Written '%s' to the file '%s'.\n", content, filename);
        close(fd);
    }

    void read_from_file(const char *filename)
    {
        int fd = open(filename, O_RDONLY);
        if (fd == -1)
        {
            perror("Error opening file for reading");
            exit(1);
        }
        char buffer[256];
        ssize_t bytes_read = read(fd, buffer, sizeof(buffer) - 1);
        if (bytes_read == -1)
        {
            perror("Error reading from file");
            close(fd);
            exit(1);
        }
        buffer[bytes_read] = '\0';
        printf("Contents of the file '%s':\n%s\n", filename, buffer);
        close(fd);
    }

    void delete_file(const char *filename)
    {
        if (unlink(filename) == -1)
        {
            perror("Error deleting file");
            exit(1);
        }
        printf("File '%s' deleted successfully.\n", filename);
    }

    int main()
    {
        const char *filename = "hello.txt";
        create_file(filename);

        const char *content = "Hello World";
```
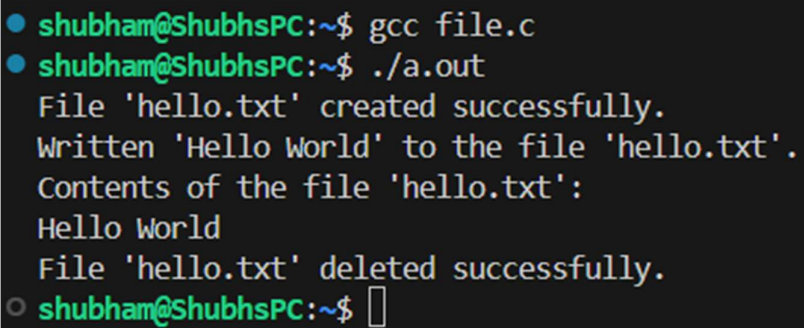
```
    write_to_file(filename, content);
    read_from_file(filename);
    delete_file(filename);

    return 0;
}
```

OUTPUT :

```
shubham@ShubhsPC:~$ gcc file.c
shubham@ShubhsPC:~$ ./a.out
File 'hello.txt' created successfully.
Written 'Hello World' to the file 'hello.txt'.
Contents of the file 'hello.txt':
Hello World
File 'hello.txt' deleted successfully.
shubham@ShubhsPC:~$
```