**25. Construct a C program to implement the I/O system calls of UNIX (fcntl, seek, stat, opendir, readdir)**

```
#include <stdio.h>
#include <fcntl.h>      // for open, fcntl
#include <unistd.h>     // for read, write, lseek, close
#include <sys/stat.h>   // for stat
#include <dirent.h>     // for opendir, readdir
#include <stdlib.h>
int main() {
   int fd;
   char buffer[50];
   struct stat fileStat;
   fd = open("sample.txt", O_CREAT | O_RDWR, 0777);
   if (fd < 0) {
      printf("Error opening file!\n");
      exit(1);
   }
   write(fd, "UNIX I/O System Calls Example", 29);
   printf("File created and written.\n");
   lseek(fd, 0, SEEK_SET);
   read(fd, buffer, sizeof(buffer));
   printf("File content: %s\n", buffer);
   int flags = fcntl(fd, F_GETFL);
   printf("File descriptor flags: %d\n", flags);
   stat("sample.txt", &fileStat);
   printf("File Size: %ld bytes\n", fileStat.st_size);
```

```
    printf("File Permissions: %o\n", fileStat.st_mode & 0777);
    DIR *d;
    struct dirent *dir;
    d = opendir(".");
    if (d) {
        printf("\nFiles in current directory:\n");
        while ((dir = readdir(d)) != NULL)
            printf("%s\n", dir->d_name);
        closedir(d);
    }
    close(fd);
    return 0;
}
```

**OUTPUT-**

```
File created/opened successfully.
Data written to file.
Data read from file: Hello, UNIX System Calls!
de <fcntl.h>      // for open, fcntl

#include <unistd.h>     // for read,File closed successfully
```