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27. Develop a C program for simulating the function of ls UNIX Command.

Aim:

The aim of this C program is to simulate the functionality of the `ls` command in UNIX. The program lists the files and directories in the current directory or specified directory.

Algorithm:

1. Take an optional directory path as input. If no directory is specified, use the current directory.
2. Use the `opendir` function to open the directory.
3. Use the `readdir` function to read each entry in the directory.
4. Print the names of the files and directories.
5. Close the directory using `closedir`.

Procedure:

1. Include necessary headers (`stdio.h`, `dirent.h`, `stdlib.h`).
2. Open the directory using `opendir`.
3. Read the directory entries using `readdir`.
4. Print the filenames of the directory entries.
5. Close the directory after reading.

Code:

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
#include <dirent.h>
```

```
int main(int argc, char *argv[]) {
```

```
    DIR *dir;
```

```
    struct dirent *entry;
```

```
    char *path = (argc > 1) ? argv[1] : ".";
```

```

dir = opendir(path);

if (dir == NULL) {

    perror("opendir");

    return 1;

}

while ((entry = readdir(dir)) != NULL) {

    printf("%s\n", entry->d_name);

}

closedir(dir);

return 0;

}

```

Result:

Running the program would output a list of filenames and directories in the current directory or specified directory.

OUTPUT:

The screenshot displays the OnlineGDB online compiler and debugger interface. On the left, a sidebar lists navigation options: 'Create New Project', 'My Projects', 'Classroom' (marked as 'new'), 'Learn Programming', 'Programing Questions', 'Upgrade', and a 'Logout' button. The main workspace is divided into a code editor and a terminal. The code editor shows a file named 'main.c' with the following content:

```

..
main.c
a.out

```

The terminal window at the bottom shows the output of the program execution:

```

...Program finished with exit code 0
Press ENTER to exit console.

```

The top of the interface features a toolbar with buttons for 'Run', 'Debug', 'Stop', 'Share', 'Save', and 'Beauty'.

