

Program 1:-

```
#include <stdio.h>
#include <unistd.h>
#include <sys/stat.h>
#include <time.h>

void PrintFileProperties ( struct stat stats )
{
    struct tm dt;
    printf("\n File Permissions: \t");
    if ( S_ISDIR ( stats.st_mode ) )
        printf("d");
    else
        printf("-");
    if ( stats.st_mode & S_IRUSR )
        printf("r");
    else
        printf("-");
    if ( stats.st_mode & S_IWUSR )
        printf("w");
    else
        printf("-");
    if ( stats.st_mode & S_IXUSR )
        printf("x");
    else
        printf("-");
    printf("\t");
}
```

```
if (stats.st_mode & S_IRGRP)
    printf("r");
else
    printf("-");

if (stats.st_mode & S_IWGRP)
    printf("w");
else
    printf("-");

if (stats.st_mode & S_IXGRP)
    printf("x");
else
    printf("-");

printf("\t");

if (stats.st_mode & S_IROTH)
    printf("r");
else
    printf("-");

if (stats.st_mode & S_IWOTH)
    printf("w");
else
    printf("-");

if (stats.st_mode & S_IXOTH)
    printf("x");
else
    printf("-");
```

```
Printf("In File size: \t %ld", stats.st_size);
Printf("In Number of links: \t %ld", stats.st_nlink);
Printf("In File inode Number: \t %ld", stats.st_ino);

dt = *(gmtime(&stats.st_ctime));
Printf("In File created on: \t %d-%d-%d \t %d:%d:%d",
      dt.tm_mday, dt.tm_mon, dt.tm_year + 1900,
      dt.tm_hour, dt.tm_min, dt.tm_sec);

dt = *(gmtime(&stats.st_mtime));
Printf("In File last modified on: \t %d-%d-%d \t %d:%d:%d",
      dt.tm_mday, dt.tm_mon, dt.tm_year + 1900, dt.tm_hour,
      dt.tm_min, dt.tm_sec);
}

int main()
{
    char path[1000];
    struct stat stats;
    Printf("Enter file path:");
    scanf("%s", path);
    if (stat(path, &stats) == 0)
    {
        PrintFileProperties(stats);
    }
    else {
        Printf("Unable to get File Properties.");
        Printf("In Check whether %s file exist.", path);
    }
}
```