

UNIX ASSIGNMENT – 3

NAME: B.RAMAKRISHNA

ROLL NO : 422123

SECTION : A

Create shell scripts for generating static and dynamic libraries.

1. STATIC: Output:

```
(base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ ls
arrayavg.c evenodd.c head.h linearsearch.c main.c selectionsort.c
(base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ gcc -c linearsearch.c -o linearsearch_obj.o
(base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ gcc -c selectionsort.c -o selectionsort_obj.o
(base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ gcc -c evenodd.c -o evenodd_obj.o
(base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ gcc -c arrayavg.c -o arrayavg_obj.o
(base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ gcc -c main.c -o main_obj.o
(base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ ar rcs eg_static.a linearsearch_obj.o selectionsort_obj.o evenodd_obj.o arrayavg_obj.o
(base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ ls
arrayavg.c arrayavg_obj.o eg_static.a evenodd.c evenodd_obj.o head.h linearsearch.c linearsearch_obj.o main.c main_obj.o selectionsort.c selectionsort_obj.o
(base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ gcc -o main_result main_obj.o -L. eg_static.a
(base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ ./main_result
Element 23 found at index 7
Array after segregation
50 42 4 8 28 56 38 23 1 33 11
Original array:
50 42 4 8 28 56 38 23 1 33 11
Sorted array:
1 4 8 11 23 28 33 38 42 50 56
Average = 26 (base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ ls
arrayavg.c      eg_static.a  evenodd_obj.o  linearsearch.c  main.c      main_result  selectionsort_obj.o
arrayavg_obj.o  evenodd.c    head.h         linearsearch_obj.o  main_obj.o  selectionsort.c
```

2. DYNAMIC: Output:

```
(base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ gcc *.c -shared -o eg_dynamic.so
(base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ ls
arrayavg.c      eg_dynamic.so  evenodd.c      head.h         linearsearch_obj.o  main_obj.o  selectionsort.c
arrayavg_obj.o  eg_static.a   evenodd_obj.o  linearsearch.c  main.c      main_result  selectionsort_obj.o
(base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ gcc -o main_result main_obj.o -L. eg_dynamic.so
(base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ ./main_result
./main_result: error while loading shared libraries: eg_dynamic.so: cannot open shared object file: No such file or directory
(base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ sudo cp eg_dynamic.so /usr/lib
[sudo] password for student:
(base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ ./main_result
Element 23 found at index 7
Array after segregation
11 33 4 8 28 56 1 23 38 42 50
Original array:
11 33 4 8 28 56 1 23 38 42 50
Sorted array:
1 4 8 11 23 28 33 38 42 50 56
Average = 26 (base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ sudo rm /usr/lib/eg_dynamic.so
(base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ pwd
/home/student/Desktop/422123_unixlab
(base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ export LD_LIBRARY_PATH=./Desktop/422123_unixlab
(base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ ./main_result
Element 23 found at index 7
Array after segregation
11 33 4 8 28 56 1 23 38 42 50
Original array:
11 33 4 8 28 56 1 23 38 42 50
Sorted array:
1 4 8 11 23 28 33 38 42 50 56
Average = 26 (base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ ls
arrayavg.c      eg_dynamic.so  evenodd.c      head.h         linearsearch_obj.o  main_obj.o  selectionsort.c
arrayavg_obj.o  eg_static.a   evenodd_obj.o  linearsearch.c  main.c      main_result  selectionsort_obj.o
```

```
Average = 26 (base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ ls
arrayavg.c      eg_dynamic.so  evenodd.c      head.h          linearsrch_obj.o  main_obj.o      selectionsort.c
arrayavg_obj.o  eg_static.a    evenodd_obj.o  linearsrch.c    main.c            main_result     selectionsort_obj.o
(base) student@nit-OptiPlex-7070:~/Desktop/422123_unixlab$ ldd main_result
linux-vdso.so.1 (0x00007ffe4d9a8000)
eg_dynamic.so (0x00007f69b88d9000)
libc.so.6 => /lib/x86_64-linux-gnu/libc.so.6 (0x00007f69b84e8000)
/lib64/ld-linux-x86-64.so.2 (0x00007f69b8cdf000)
```