

# GROUP MEMBERS

GitHub - <https://github.com/Akshat22052/OS-Assignment>

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## IMPLEMENTATION OF THE CODE

### LOAD\_AND\_RUN\_ELF FUNCTION IMPLEMENTATION

1. Open the file and store in in file descriptor.
  2. Allocate memory to ehdr and phdr pointers using malloc function.
  3. Read the elf file using the read function
  3. Iterate in the program header table to find the program header of type PT\_LOAD;
  4. Once found, double check if the start point exist in that program header table.  
{Using condition –  $e\_entry > p\_vaddr$  and  $e\_entry < p\_vaddr + p\_memsz$  (FOR THAT PARTICULAR PROGRAM HEADER)}
  5. As soon as we find the segment, we copy it in our memory using mmap
  6. We find the offset within the segment using  $e\_entry - p\_vaddr$ .
  7. Finally we typecast the the function pointer and call the `_start`.
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### LOADER\_CLEANUP FUNCTION IMPLEMENTATION

1. We have used free to free the the memory allocated to ehdr and phdr pointers and closed the file descriptor.

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## CONTRIBUTION

1. Akshat Karnwal handled the file handling stuff and lseek part to set the pointers .
2. Mohd Masood handled the iteration in the loop to find the segment and navigation to entry point to typecast the address to function pointer.
3. Both of us coded the file handling part collectively.