

Computer Science & Engineering Department
I. I. T. Kharagpur

Compilers Laboratory: CS39003

3rd Year CSE: 5th Semester

Assignment - 2: Creating Library

Marks: 10

Assign Date: 29th July, 2015

Submit Date: 23:55, 11th August, 2015

1. Write a C program consisting of the following functions to create a *library*. You cannot use any standard library function. You have to use in-line assembly language program of x86 along with `int $128` (software interrupt) for GCC assembler.
 - `int prints(char *)` - prints a string of characters. The parameter is terminated by `'\0'`. The return value is the number of characters printed.
 - `int printi(int n)` - prints the integer value of `n` (no newline). It returns the number of characters printed.
 - `int readi(int *eP)` - reads an integer (signed) and returns it. The parameter is for error (`ERR = 1`, `OK = 0`).
 - `int readf(float *fP)` - reads a floating point number in `'%f'` format e.g. `-123.456`. Caller get the value through the pointer parameter. The return value is `ERR` or `OK`.
 - `int printd(float f)` - prints the floating point number passed as parameter. Returns the number of characters printed.

The header file `myl.h` is as follows:

```
#ifndef _MYL_H
#define _MYL_H
#define ERR 1
#define OK 0
int prints(char *);
int printi(int);
int readi(int *eP); // *eP is for error, if the input is not an integer
int readf(float *); // return value is error or OK
int printf(float);
int prints(char *);
#endif
```

2. Name of your `.c` file should be `ass2_roll.c`. Only header file you include is `#include "myl.h"`. *It should not contain the function `main()`*. Write your `main()` (in a separate file) to test your library. Do not change the supplied header file.