

Applied Programming I

Project #3

Jan. 17, 2012

Ver. 3.0

Program:

Upgrade the VFortran computer program that your group prepared in project 2 to include plots of the main variables: SHP, Total and Frictional resistance (in the same graph), versus, velocity, using the MPlot library. To estimate the Shaft horsepower, assume an appropriate value for the Propulsive coefficient, which must be read from the data file. The source code of the subroutine to generate the graphs must be included as an appendix of the report.

Application:

Applying your own implementation of Mercier and Savitsky's method, you have to compare your results with those published by SNAME for two of their models^{1 2}.

The grade will be assigned according to:

- Written report (Aesthetics, table of content, numbering, organization of material, references). (50%)
- Oral presentation (15 minutes). (25%)
- Analysis of results (Technical content, discussion of results, conclusions). (25%)

Extra credit will be assigned individually, for example, trying to prepare a dxf file from the plot, or, writing the scale numbers in the axis, etc.

Do not forget: you must report # of hours employed to complete the project.

Deadline: PPoints files with presentations: Thursday 26th at noon, first version of reports before oral presentations: Friday 27th of January. This first version will be reviewed by the instructor and returned by Friday afternoon.

Final report: 4h30 pm Monday 30th of February.

jrm/2012

¹ SNAME, Ferry Model Resistance Data Sheets.

² SNAME, Miscellaneous Model Resistance Data Sheets.