NAME

sailings – calculate course and distance between points

SYNTAX

sailings [*options*]

DESCRIPTION

This programme is designed to assist in the calculations required for passage planning. There are two general problems; calculating the course and distance to sail between two points or the final position given a start point, course and distance. For long passages, great circle distances, courses, way points and vertexes can be calculated.

Without any options selected, **sailings** will calculate the rhumb course and distance. This is only accurate for distances of less than 600 nautical miles. For large distances, use the **-g** option to give the great circle values.

The programme is interactive and will prompt for a start position. It will then ask for a finish position which if given, will result in the course and distance being calculated. If the answer for the finish position is an empty line then the programme will ask for a course and distance and will calculate the final position. In calculating a traverse, you can use the keyword **last** as the start position and then enter additional courses and distances.

OPTIONS

−b For great circle calculations use the World Geodesic System (WGS) for 1972 to match the traverse tables in Bowditch.

−d Output additional debugging information.

−g Output great circle distances and initial courses.

−n For great circle calculations use WGS 1880 as used in the traverse tables in Nories.

−s Use short hand notation for outputting latitudes and longitudes.

INPUT NOTATION

Input is expected in latitude, then longitude order. Either can be given as a fractional number or as degrees and minutes, for example 34.5S 20.25E is equivalent to 34 30S 20 15E.

ACCURACY

For rhumb calculations, the earth is considered a oblate spheroid and WGS 1984 is used (optionally others to match various nautical tables). For great circle calculations, straight spherical geometry is used. For all practical navigation purposes, greater accuracy is a waste of time given the problems of currents, leeway, steering a course within 5 degrees etc ... No warranty is given as regards the accuracy of any result

COMPILING

cc -O -o sailings sailings.c -lm

RESTRICTIONS

If you don't know the nautical terms used in this manual entry, you should not try to navigate using it!

AUTHOR

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