

NAME

sky – obtain ephemerides

SYNOPSIS

sky

DESCRIPTION

Sky predicts the apparent locations of the Sun, the Moon, the planets out to Saturn, stars of magnitude at least 2.5, and certain other celestial objects. *Sky* reads the standard input to obtain a GMT time typed on one line with blanks separating year, month number, day, hour, and minute; if the year is missing the current year is used. If a blank line is typed the current time is used. The program prints the azimuth, elevation, and magnitude of objects which are above the horizon at the ephemeris location of Murray Hill at the indicated time.

Placing a “1” input after the minute entry causes the program to print out the Greenwich Sidereal Time at the indicated moment and to print for each body its right ascension and declination as well as its azimuth and elevation. Also, instead of the magnitude, the geocentric distance of the body, in units the program considers convenient, is printed. (For planets the unit is essentially A. U.)

The magnitudes of Solar System bodies are not calculated and are given as 0. The effects of atmospheric extinction are not included; the mean magnitudes of variable stars are marked with “*”.

For all bodies, the program takes into account precession and nutation of the equinox, annual (but not diurnal) aberration, diurnal parallax, and the proper motion of stars (but not annual parallax). In no case is refraction included.

The program takes into account perturbations of the Earth due to the Moon, Venus, Mars, and Jupiter. The expected accuracies are: for the Sun and other stellar bodies a few tenths of seconds of arc; for the Moon (on which particular care is lavished) likewise a few tenths of seconds. For the Sun, Moon and stars the accuracy is sufficient to predict the circumstances of eclipses and occultations to within a few seconds of time. The planets may be off by several minutes of arc.

FILES

/usr/lib/startab, /usr/lib/moontab

SEE ALSO

azel (VI)

American Ephemeris and Nautical Almanac, for the appropriate years; also, the *Explanatory Supplement to the American Ephemeris and Nautical Almanac*.

AUTHOR

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BUGS