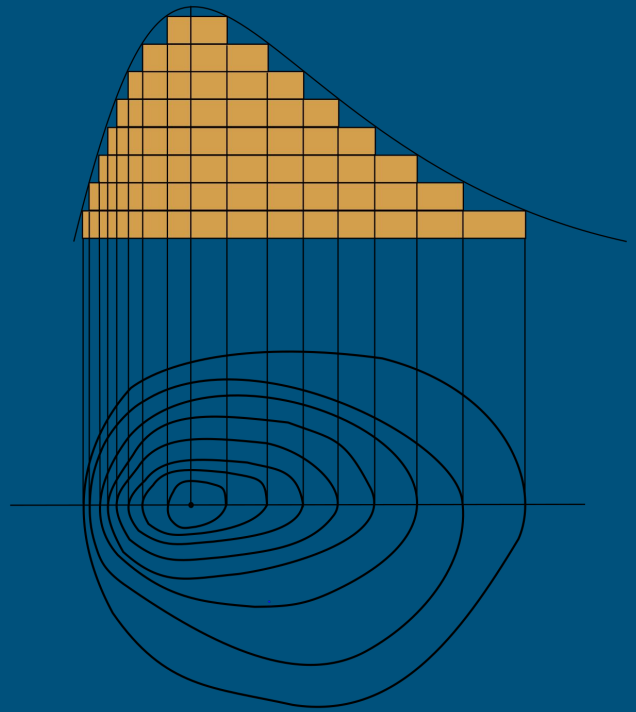
# CONTOUR MAP

- A contour map is a map illustrated with contour lines.
- It is also known as isoline map or isarithmic map.

# CONTOUR LINE

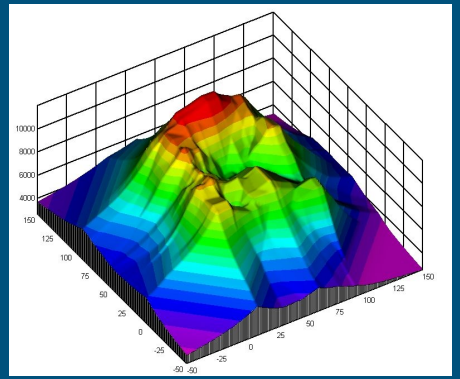
A contour line (also isoline, isopleth, or isarithm) of a function of two variables is a curve along which the function has a constant value, so that the curve joins points of equal value.

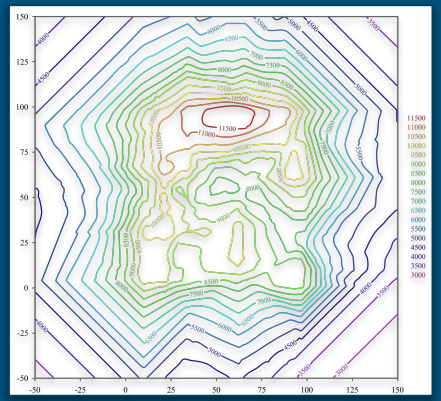
# CONTOUR LINE - Example 2D



The bottom part of the diagram shows some contour lines with a straight line running through the location of the maximum value. The curve at the top represents the values along that straight line.

# CONTOUR LINE - Example 3D





- It is a plane section of the three-dimensional graph of the function f(x, y) parallel to the (x, y)-plane.
- In cartography, a contour line (often just called a "contour") joins points of equal elevation (height) above a given level, such as mean sea level.

# APPLICATIONS

- Meteorological contour lines are based on interpolation of the point data received from weather stations and weather satellites.
- In Barometric pressure reading, Contours are used to represent wind speed, loops in cyclones.
- Contours usually represent the thermal regions in GeoThermal maps. It is known as isotherm lines.
- In the study of the Earth's magnetic field, the term isogon or isogonic line refers to a line of constant magnetic declination, the variation of magnetic north from geographic north.

# Implementation

- Online tools:
  - Teraplot
  - 3dfmaps.com
  - https://contourmapcreator.urgr8.ch
- Softwares
  - Matlab
  - Excel
  - Tableau
- Programming
  - Opencv - python
  - Plotly - javascript
  - Matplotlib - python

# References


- https://en.wikipedia.org/wiki/Contour_line
- http://wiki.gis.com/wiki/index.php/Isarithmic_map
- https://www.sciencedirect.com/topics/earth-and-planetary-sciences/contour-map
- https://www.britannica.com/science/contour-mapping

# Thank You!