# Advanced data management concepts

**1- Verify if the Pandas and Bumpy libraries are installed in the DrillingAnalytics condo environment.**

**2- Load libraries into the notebook**

**3- Declare a dictionary with drilling parameters**

**4- Transfer matrix to a pandas dataframe**

**5- Detect lines where ROP is greater than 15 m/h**

**6- Print working directory**

**7- Import a CSV file**

**8- Confirm the Lasio library is installed**

**9- Import time depth files**

**10- Import WITSML file and print available curves**

**11- Load defines curve into a dataframe: md, tvd, inc, azi, dispNs, dispEw**

**10- Plot well trajectory**

**11- Load time LAS file: Barossa-6\_24hrs Time Ascii\_010517.LAS**

**12- Load time LAS file: Barossa-6\_24hrs Time Ascii\_020517.LAS**

**13- Concatenate two data frames**

**14- Is the head of result\_vertical the same as the head of df1?**

**15- Is the tail of result\_vertical the same as the tail of df2?**

**16- How many rows in df1 and df2?**

**17- How many rows in the concatenated dataframe?**

**18- Why hasn’t the column ETIM not incremented after concatenating?**

**19- Create a dataframe with the following information: 'Depth': [100, 200, 300, 400, 500, 600, 700, 800, 900, 1000], 'ROP': [45, 55, 60, 40, 70, 30, 80, 20, 90, 25], and create groups for ROP greater and smaller than 50.**

**20- Load a WITSML file and determine if there is ROP information: 1-2.xml**

**21- Create a dataframe with all the data**

**22- Convert ROP from meters per second to meters per hour**

**23- Create two groups, one with ROP greater than 10 m/hr, and another of less than 10 m/hr**