Getting started

The document you are reading is not a static web page, but an interactive environment called a **Colab notebook** that lets you write and execute code.

For example, here is a **code cell** with a short Python script that computes a value, stores it in a variable, and prints the result:

```
#Design of Efficient Channel Section
Q= float(input("Enter the value of Discharge:"))
n=float(input("Enter the value of Rugosity coefficient:"))
So= float (input("Enter the value of bed slope:"))
g= float(input("Enter the value of acceleration due to Gravity:"))
 #Manning's Formula
#Q = (AR^2/3 S^1/2)/n
yn=((Q*n*50*1.591)/(1.732))**(3/8)
print("The Value of yn is", yn)
#To encounter the effect of free board
yn1= 1.1*yn
print("The Value of ynl is", yn1)
# Cross Sectional Area
A = 1.732*yn*yn1
print("The cross sectional Area is:", A)
# Top Width
T= 4*yn/1.732
print("The value of top Width is:", T)
# Bottom Width
B=2*yn/1.732
print("The value of Bottom Width is'", 8)
Fr= ((Q*Q*T)/(g*A*A*A)) * 0.5
print("The value of Froude number is:", Fr)
if Fr>1:
    print("The flow is Super Critical Flow")
else:
    print("The flow is Sub Critical Flow")
```

```
Enter the value of Discharge:100
Enter the value of Rugosity coefficient:0.015
Enter the value of bed slope:0.0004
Enter the value of acceleration due to Gravity:9.81
The Value of yn is 4.89011230647273
The Value of ynl is 5.3791235371200035
The cross sectional Area is: 45.559425534364046
The value of top Width is: 11.293561908713002
The value of Bottom Width is' 8
The value of Froude number is: 0.0608691470073813
The flow is Sub Critical Flow
```

```
seconds_in_a_day = 24 * 60 * 60
seconds_in_a_day
```

```
86400
```

To execute the code in the above cell, select it with a click and then either press the play button to the left of the code, or use the keyboard shortcut "Command/Ctrl+Enter". To edit the code, just click the cell and start editing.

Variables that you define in one cell can later be used in other cells:

```
seconds_in_a_week = 7 * seconds_in_a_day
seconds_in_a_week
```