BlockMesh Drill Down

Introduction :

The main objective of this project is to show the flow through the Backward facing step. In this project we are going to use openFoam to run the set of programs inorder to see the result of Backward facing step. Here we are going to compare the results of different mesh grid and choose the best one .

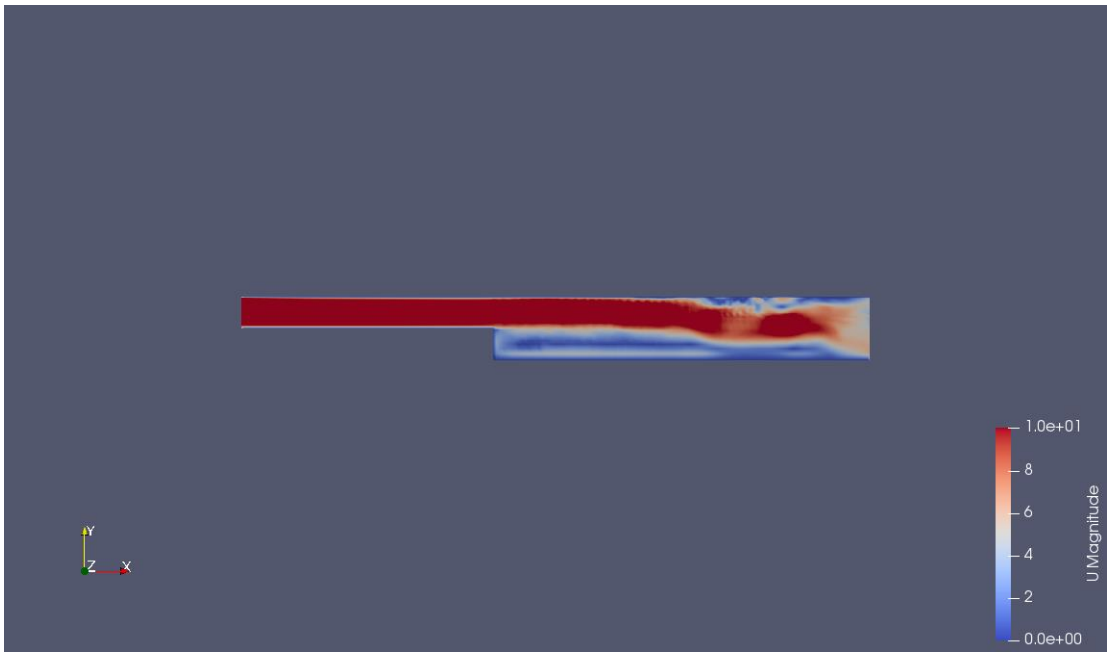
Mesh specifications :

- Number of mesh along x-axis = 200
- Number of mesh along y-axis = 10
- Grade mesh factor near the walls = 0.2

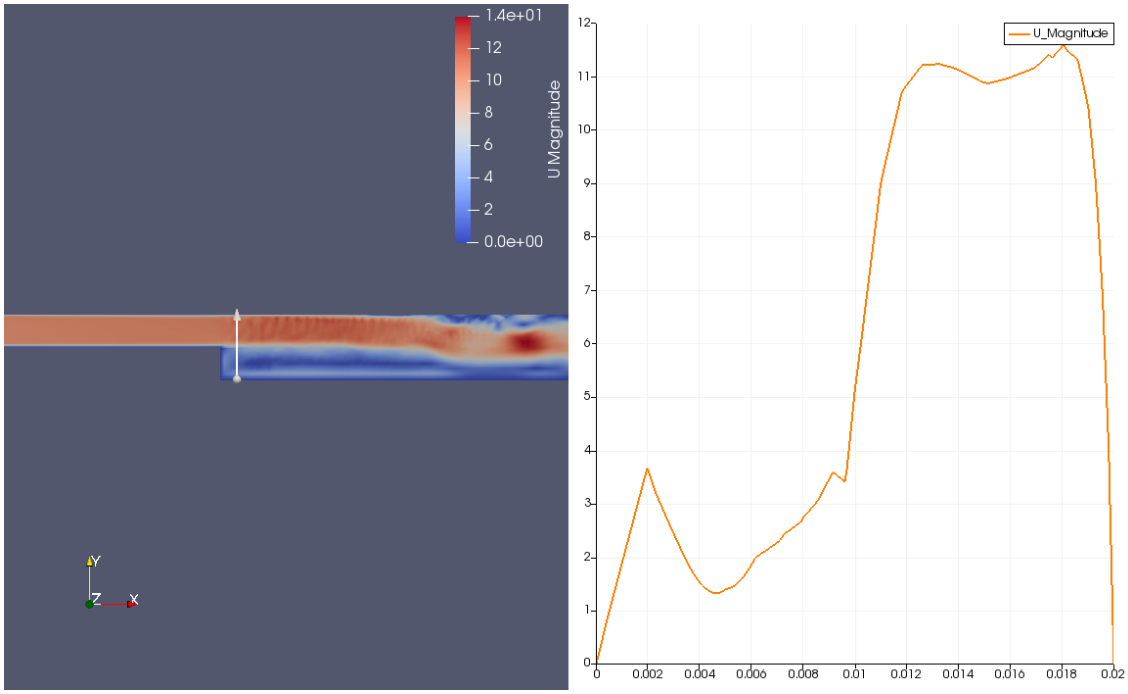
Inorder to run the program BlockMeshDict file is edited according to the block given in the question . 0 floder is used for changing the intial conditions and many other folders are choosed to make a change in the data provided. By changing the data we can manage to run the desired program.

Grading mesh 0.2

- **Velocity :**

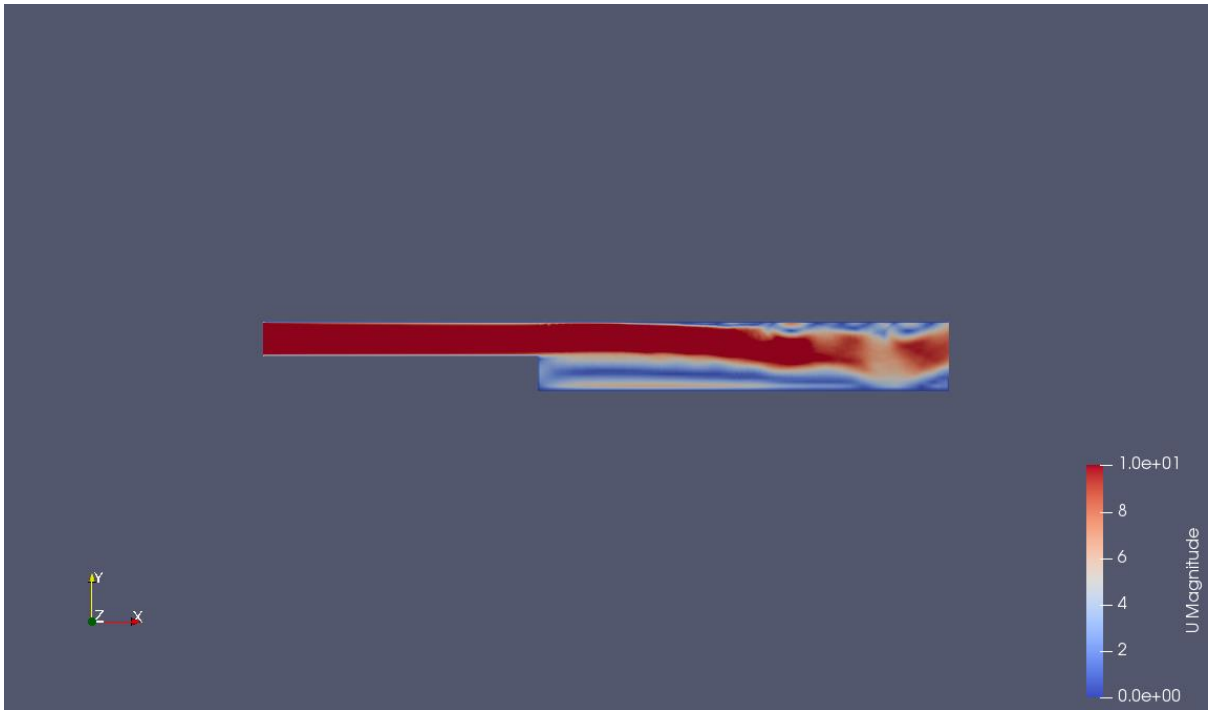


- **Line graph :**

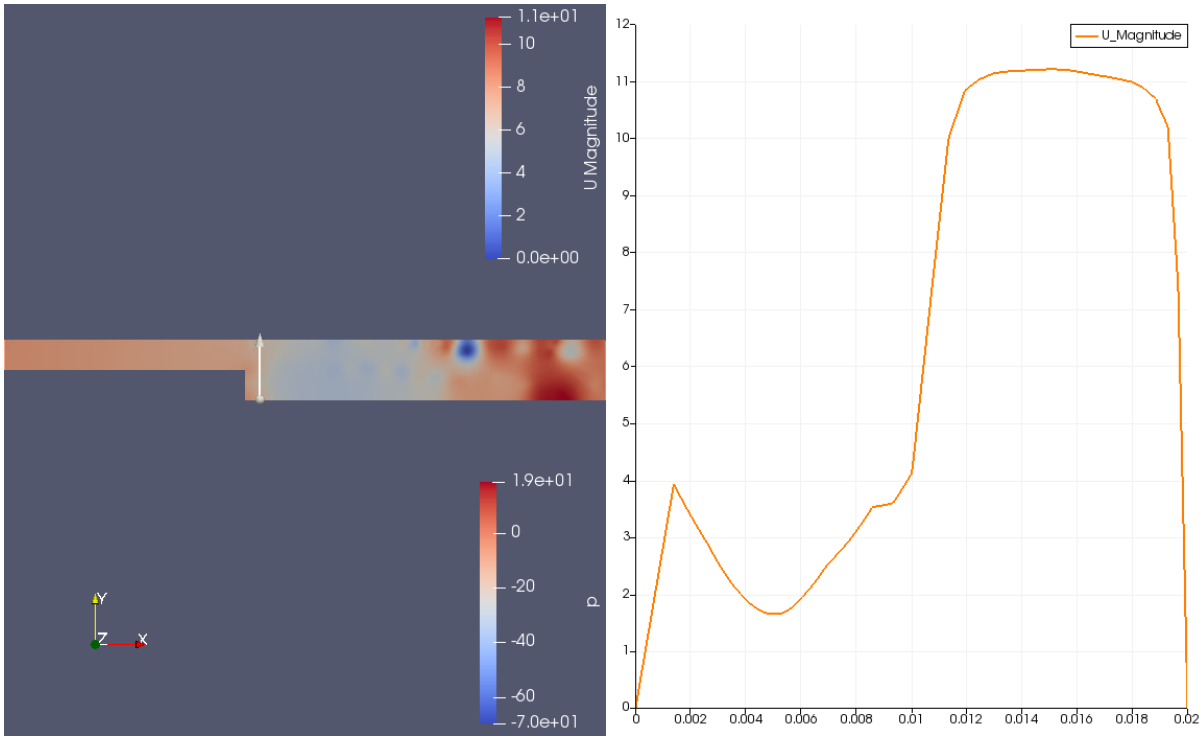


Graded mesh 0.5

- **Velocity :**

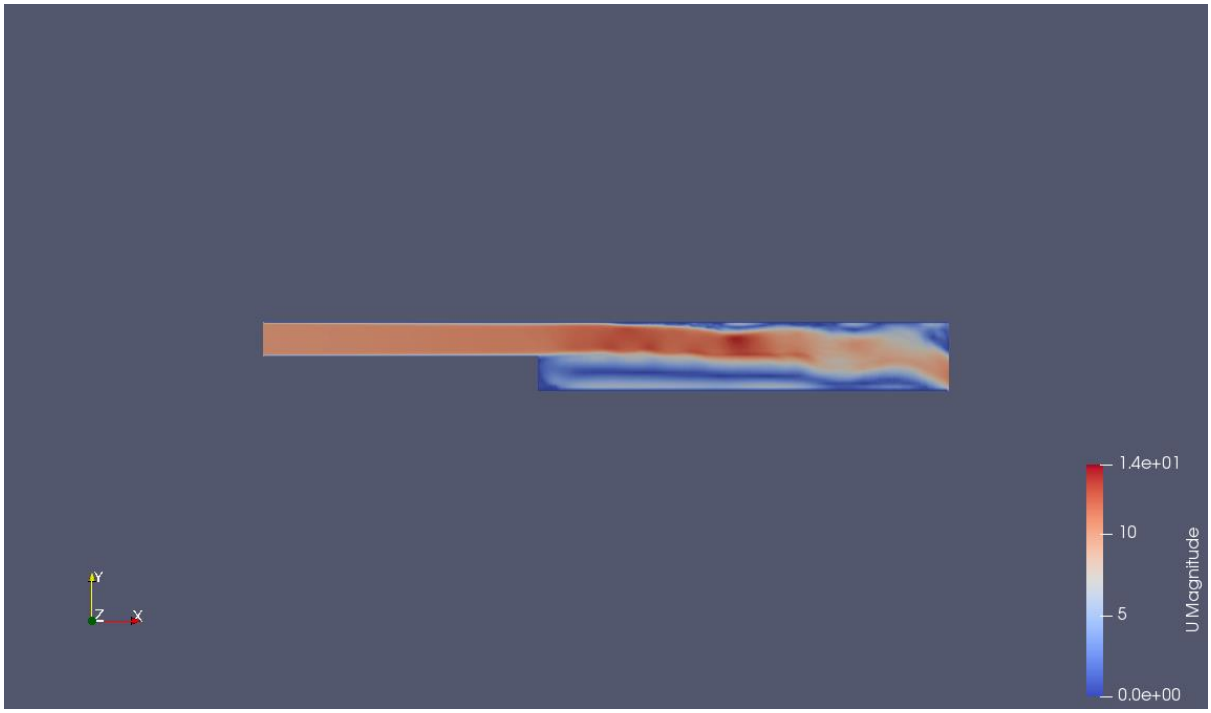


- **Line graph :**

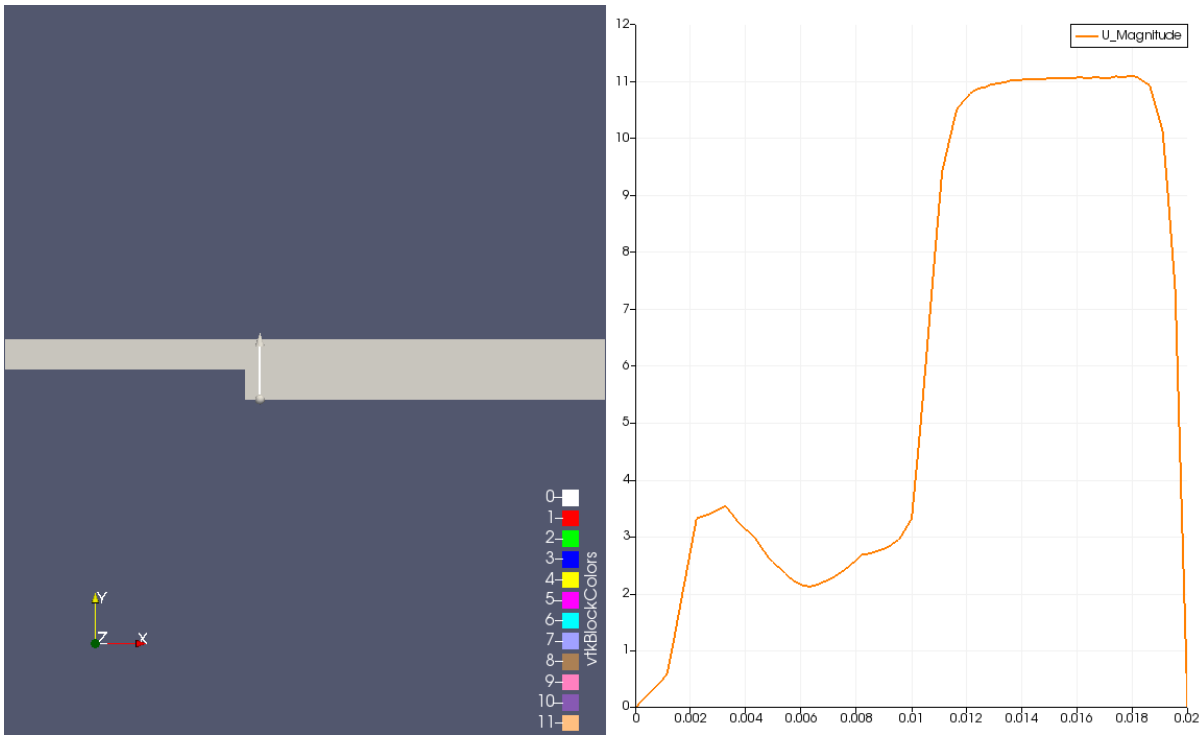


Graded mesh 0.8

- **Velocity :**



- **Line graph :**



Conclusion :

As we can see the line graphs of mesh are provided , in which all the line graphs are slightly similar in nature and with tiny variation . From the line graph it is shown that 0.2 plot graph is better when compared to 0.5 and 0.8 .