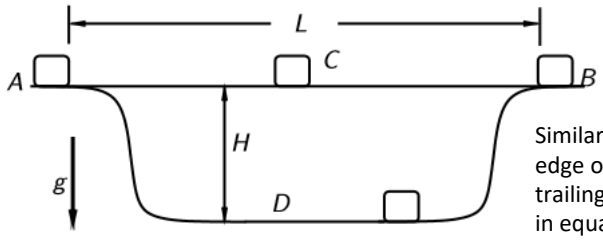
Class 2 : Aug 21

21 September 2020 16:56

No conservation of time - Blocks on a Frictionless Surface

This is an example to show the Fallacy of equal transit time.

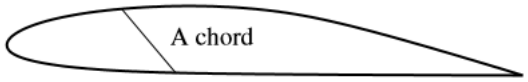


Similar to this, once a flow if fluid is separated at the leading edge of the airfoil, it is not necessary for them to meet at the trailing edge (that is, they may/may not travel over the airfoil in equal time)

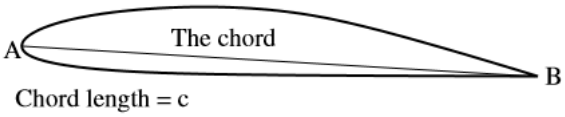
Hence, Once separated at the leading edge, The fluids are to be treated as individual flows independent of each other

Some Parts of an Airfoil

A chord is any line which joins 2 points of the airfoil



The Chord is the longest line that can be drawn in the airfoil



Chord length = c

Point A – leading edge, Point B is the trailing edge

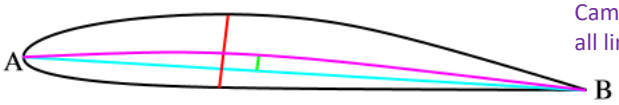
These edges are at the end of the chords

Then we make lines perpendicular to the chord

Parts of an Airfoil

Thickness t is reported for the longest line that can be drawn perpendicular to the chord

Camber line is the locus of midpoints of all lines perpendicular of the chord



Chord length = c

Point A – leading edge, Point B is the trailing edge

t is the thickness reported as t/c reported in %

Camber line

Camber reported as a percentage of c

Camber is the maximum distance between the chord and the camber line. It is measured perpendicular to the chord line