

Assignment 7

Kavya Kamal

Download all python codes from

[https://github.com/kavyakamal66/IITH-
INTERNSHIP/blob/main/Assignment7/
code7.py](https://github.com/kavyakamal66/IITH-INTERNSHIP/blob/main/Assignment7/code7.py)

and latex-tikz codes from

[https://github.com/kavyakamal66/IITH-
INTERNSHIP/blob/main/Assignment7/
latex7.tex](https://github.com/kavyakamal66/IITH-INTERNSHIP/blob/main/Assignment7/latex7.tex)

1 QUESTION NO. 2.7 - LINEAR INEQUALITIES

Solve the following system of inequalities:

$3x-7 \leq 5+x$ $11-5x \leq 1$, and represent the solutions on a number line.

2 SOLUTION

Let,

$$3x - 7 + s = 5 + x, s \geq 0 \quad (2.0.1)$$

$$\Rightarrow x + s = 6 \quad (2.0.2)$$

$$\Rightarrow x \leq 6 \quad (2.0.3)$$

and

$$11 - 5x + s = 1, s \geq 0 \quad (2.0.4)$$

$$\Rightarrow x = 2 + s \quad (2.0.5)$$

$$\Rightarrow x \geq 2 \quad (2.0.6)$$

The following figure marks the solution region on a number line.

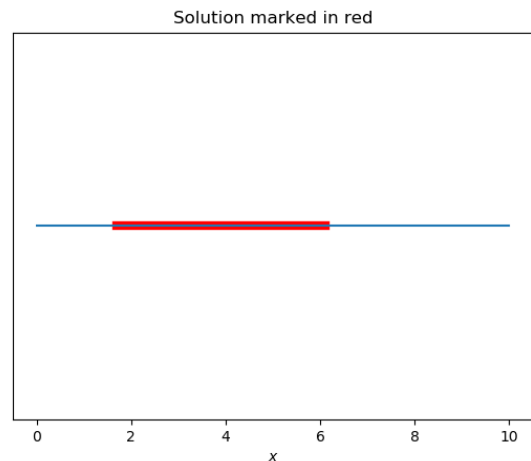


Fig. 0: Solution Region