

SchoolNova Computer Science 202
Homework 15 (due 1/30/2021)

Save your code as lastname_homework15.py and submit on Google Classroom
For the tasks 1-4, please, use scipy. Use <https://www.wolframalpha.com/> to verify your solutions.

Task 1

Minimize $y = x^3 - 8x^2 + 6x - 24$ between 0 and 10. Do NOT use numpy poly1d for this task.

Task 2

Maximize $y = x^3 - 8x^2 + 6x - 24$ between -5 and 5. Use numpy poly1d for this task.

Task 3

Minimize $y = (x[0] - 1)^2 + (x[1] - 9)^2$. Print the $x[0]$ and $x[1]$ values that minimize y .

Task 4

Minimize $y = (x[0] - 1)^2 + (x[1] - 9)^2$. Add the following constraint: $x[0] = x[1]$. Print the $x[0]$ and $x[1]$ values that minimize y . Print the corresponding value of y .

Task 5*

Attempt the CMIMC sample optimization problem posted on Google Classroom. Notice that there are four separate input files/tasks. Try to complete at least one or two. The input files .in are text files.