

# Homework\_8\_3

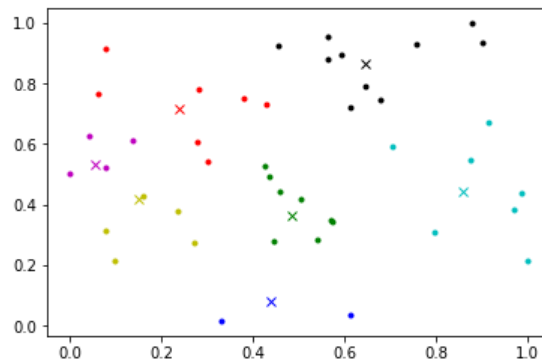
R06521535 楊士寬

1.  $N = 50$  &  $K = 7$

(1) weak form

--- Model generation time: 0.047000169754 seconds ---

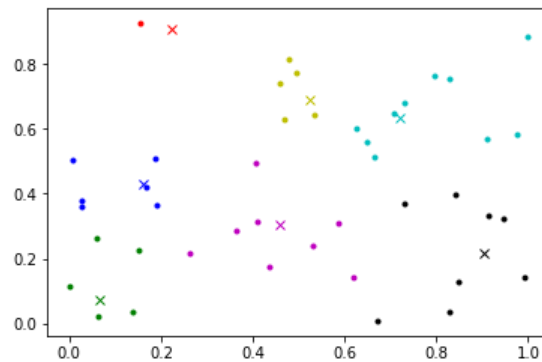
--- Model solution time: 0.521999835968 seconds ---



(2) strong form

--- Model generation time: 0.136999845505 seconds ---

--- Model solution time: 0.107000112534 seconds ---

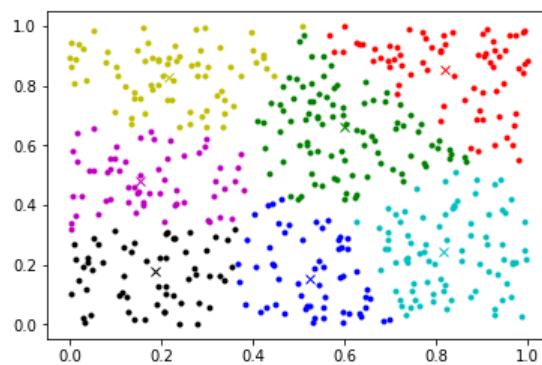


2.  $N = 500$  &  $K = 7$

(1) weak form

--- Model generation time: 4.39299988747 seconds ---

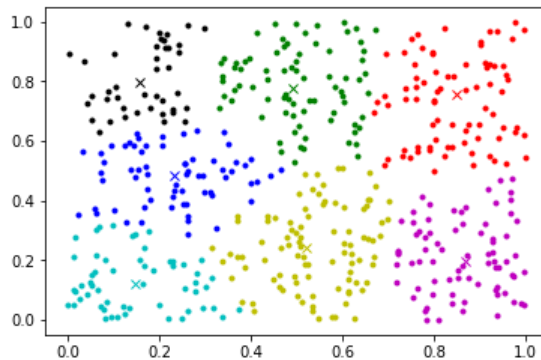
--- Model solution time: 1215.14899993 seconds ---



(2) **strong form**

--- Model generation time: 15.628000021 seconds ---

--- Model solution time: 48.1199998856 seconds ---



There is a same conclusion in 50 nodes and 500 nodes. The model generation time in the strong form is more than the time in the weak form. I think the reason is the strong form constraints is more than the weak form constraints. Nevertheless, the model solution time is faster in the strong form. I guess it resulted from the second constraint. The second constraint in the weak form needed the process of adding up. I think the strong form is better because the total time is less.

I try to calculate the 5000 nodes. One minute later, my word files had no reflect and the music played intermittently. I was a little scared because I did not store my word files. The memory was up to 98%. I closed the spyder and it turned back to 27%