

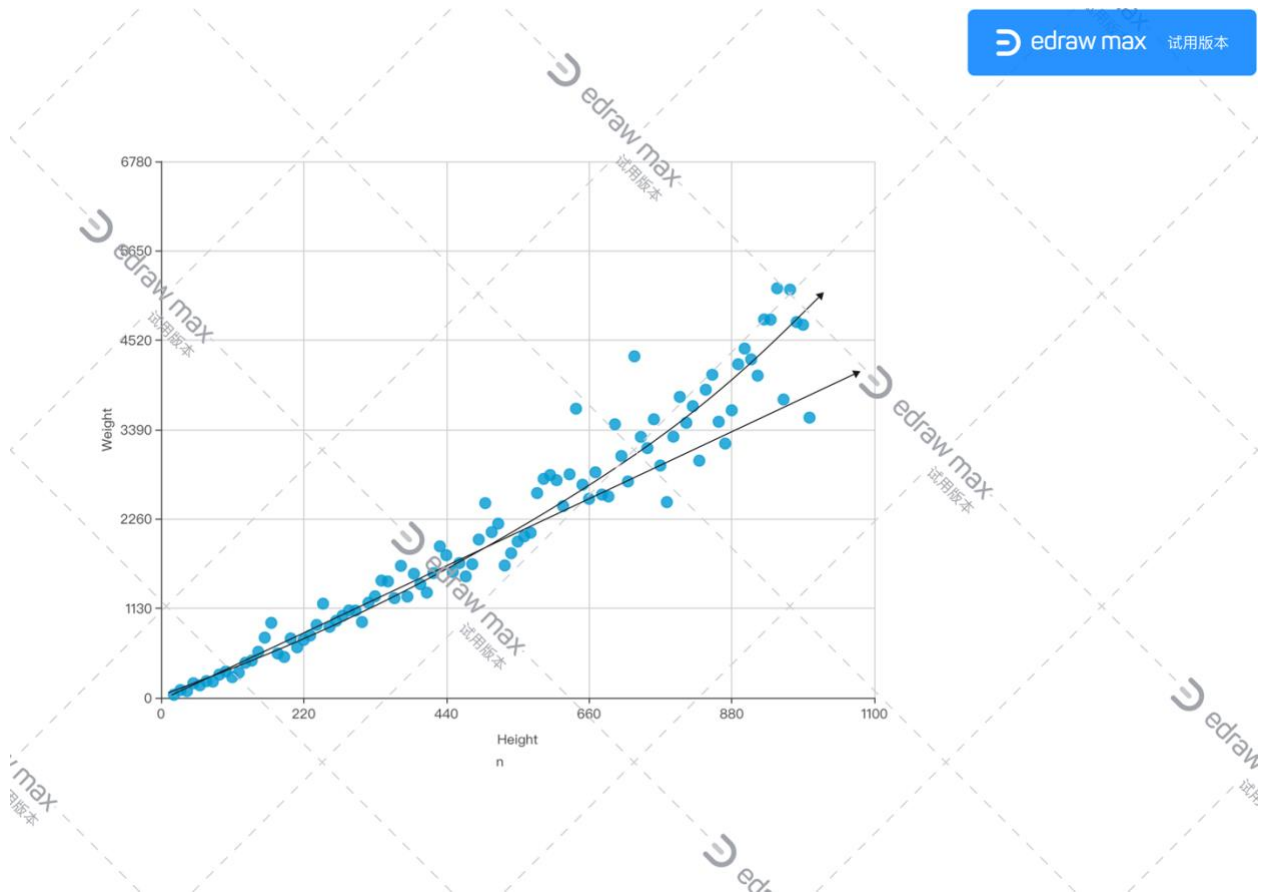
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Program Structures & Algorithms

Spring 2021

Assignment No. 3

- **Task**
- **Determine the relationship between the number of objects (n) and the number of pairs (m) generated to accomplish this (i.e. to reduce the number of components from n to 1). Justify your conclusion.**
- **Output**
Output.xls
- **Relationship Conclusion:**
The relationship between n and m is nonlinear.
- **Evidence to support the conclusion:**
- **Graphical representation:**



We can see that when $n < 500$, the relationship between n and m could be linear. But when $n > 500$, the growth rate of m starts to be greater than n . (In this picture, the horizontal axis is n , the vertical axis is m)

- **Unit tests result:**

