# MATH48181/68181: EXTREME VALUES AND FINANCIAL RISK
## SEMESTER 1
## QUIZ PROBLEM 2
### (Deadline: 11:00am on Wednesday, 20 October 2021)

Suppose $X$ is a random variable with probability mass function

$$p(x) = \begin{cases} \frac{1}{K}, & \text{if } x = 1, \\ \frac{1}{x(x-1)}, & \text{if } x = 2, \ldots, K \end{cases}$$

for $K > 1$. Derive the max domain of attraction if there is one. Please give full details.

This problem is worth 1 mark. Marking scheme: 1 mark if the answer is correct, and the derivation is correct and detailed enough; 0.5 mark if the answer is correct, and the derivation is incorrect or not detailed enough; 0.5 mark if the answer is incorrect or not given, but the derivation is correct and detailed enough; 0 mark if the answer is correct, but the derivation is not detailed enough; 0 mark if the answer is incorrect, and the derivation is not detailed enough.

Please use Blackboard to submit your answer.