COMPARISON OF GOMPERTZ, EXPONENTIAL, LOGISTICS AND LINEAR GROWTH MODELS TO ESTIMATE POPULATION OF JOHOR IN 2023

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ABSTRACT

Johor is a state that located in southern west in peninsular Malaysia. The population growth increased at rate of 2.2% for period from 2010 to 2020. One of the main problems in world is population growth. This is important issue that must be alerted to. Growth model is one of the methods to estimate the population and also can represents the data in mathematical way. Estimate population can help the government to take first step to avoid overpopulation or underpopulation in a country. Then, it also can help for make sure the country stable. Thus, in this study there are three types of growth model that had been used to estimate population growth in Johor. The growth models are Exponential, Logistics and Gompertz. Moreover, to determine the best growth models among them is based on value of the Root Mean Square Error (RSME). Based on the results, it shows Logistics Growth Model is the best because of the value or RSME is the lowest other than models while the value for adjusted R^2 is the highest and closer to 1.

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