**Extended Abstract**

In Japanese folklore, mats with a ratio of 1:2 are popular. The mat is called Tatami. After the organizers have studied Tatami, the arrangement of tiles in one room can be arranged in many different ways. This made the organizers interested in counting the number of possible ways to arrange the tiles in one room. So we built a computer program that can calculate the things we care about. There are 3 items as follows: 1. The number of methods for arranging the Tatami tiles into the room size 2\*n and 3\*n. 2. The total number of tiles used in the arrangement and 3. The remaining room space after the arrangement. tile By using knowledge of Domino's Tiling Theorem, Recursive Function, Fibonacci sequence, and computer programming. therefore became “Application of Domino's Tiling Theory to calculate the probability of tatami mat arrangements in rectangular rooms, the number of mats required, and the areas where a full sheet of tatami mat cannot be arranged”. The results showed that the programming output showed consistent results for all three experiments: a comparison with the results of a mathematical formula according to Domino's tiling Theorem, a comparison with the results of a mathematical formula of the form. General and comparison with the results of the distribution of all possible number of methods. And part of the program can be used or extended in industrial applications, the cost of tatami mats according to the amount that can be placed in 2\*n and 3\*n rooms, is used as a reference for work that brings Knowledge of mathematics and computers, as well as being able to apply data and program formats to further developments. Ultimately, our experiment will be an experiment by comparing the program's output with the results obtained by substituting values in a mathematical formula. and shows that mathematics can be applied to all subjects. and can use knowledge in many fields or fields to develop the experimental results according to the assumptions.