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Increasing Knowledge of Residents In Pinang Griya Permai Housing In Waste Management Through Training of Organic and Anorganic Waste Recycling By The Teratai Waste Bank

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ABSTRACT

Garbage is currently still a problem for the community where there is a lack of knowledge of waste management properly. The waste bank is present as a solution to assist the government in reducing the accumulation of waste and helping to improve the economy of housewives, especially residents affected by the COVID-19 pandemic. Bank Sampah Teratai (BST) is one of the social group organizations engaged in environmental economics, especially in managing household waste for residents of RW. 05 Pinang Griya Permai, Pinang - Tangerang. Bank Sampah Teratai located in Pinang Griya Permai Tangerang is a partner in this activity. Observation results show that Bank Sampah Teratai does not yet have adequate knowledge in waste management, both organic and inorganic. Based on the above problems, a community partnership program was formed with the academic community (lecturers and students) of Universitas Budi Luhur to help solve problems at the Bank Sampah Teratai. Based on these conditions, training on organic and inorganic waste management was carried out for residents of the Pinang Griya Permai housing. This training provides understanding, and appropriate skills, which help residents to carry out organic and inorganic waste management. Based on the results of the questionnaire after the training was carried out, 100% of participants stated that the material presented was in accordance with their needs, and the material presented was also considered good by 100% of the participants. The long-term result of this training is an increase in the understanding and skills of the residents to manage organic and inorganic waste. This training has been a useful contribution to improving skills for members of the Bank Sampah Teratai in particular, and skills for residents of Pinang Griya Permai housing in general.

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INTRODUCTION

The density of the population each year is followed by an increase in the amount of waste generated from each household . Data from the Department of Environment and Sanitation (DLHK) for the city of Tangerang, Banten, records that the volume of waste in the city of Tangerang in 2021 will reach an average of 1,000 tons per day. The total volume of waste for one year in the city of Tangerang is 365,702 tons, while the volume of waste in 2020 is 336,370 tons. The volume of waste is expected to continue to increase along with the increase in population growth rate if not handled by all parties, namely the government and residents of Tangerang City (Setiawan, 2022) . In an effort to overcome this problem, the Tangerang city DLHK will maximize the participation of the community to reduce the volume of waste and reduce the burden of waste disposal to the Final Processing Site (TPA) in Rawa Kucing in 2022. The role of the community is very important in reducing the amount of waste, this is in accordance with the rules contained in the Mayor Regulation (PERWALI) of the city of Tangerang number 99 of 2018 which describes the Policies and Strategies of the City of Tangerang in the Management of Household Waste and Household-like Waste as well as Presidential Regulations No. 97 of 2017. The Presidential Regulation explains that the government needs to build awareness of the household or community sector to manage waste with the 3R pattern, namely reduce , reuse *and* recycle *household* waste respectively (Agus , 2020) .

The data above implies that the waste problem is one of the problems that can cause environmental pollution, where this problem does not yet have an effective solution for solving it (Rizaty, 2021) . Various government policies and regulations have been established as an effort to overcome the problem of waste, even technology has been developed to make it easier for people to manage waste. However, until now this problem has not been properly resolved due to several factors, namely the lack of public awareness regarding the cleanliness of the surrounding environment and the lack of facilities to carry out waste management that is suitable for application to the community (UTS, 2019) . Referring to these problems, we need a container or organization for better waste management in the community. One such container is the formation of the Lotus Garbage Bank in the RW environment. 05 Pinang Griya Permai, Pinang district, Tangerang city. Based on the Decree of the Pinang Lurah No. 443.42/ Kep27Kemasy/VII/2021. Teratai Garbage Bank has been established since May 11 2014 in RW . 05 Housing Pinang Griya Permai, Tangerang.

BST's routine activity is to collect waste that has been sorted from customers' homes and sell it directly to pelapak to be converted with some money as customer savings. Based on survey results and interviews with management, the collected waste should not only be sold to collectors, but some of it can be optimally utilized to become new products that have more economic added value. These products can be in the form of handicrafts such as bags, hats, tables, rugs, flower canvases and others made from inorganic waste. Furthermore, household organic waste, namely food scraps and leaves, can be used as

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compost and biogas. Products resulting from household waste can later be sold to increase the economic income of housewives, especially residents affected by the Covid-19 pandemic.

LITERATUR REVIEW

In this inorganic training, participants were dominated entirely by housewives (over 40 years old) while there were only two fathers as RW administrators. The level of participation of millennials was not found in this activity. Apart from participants from residents of the Pinang Urban Village, the participants were also attended by two final project students from the Faculty of Communication & Creative Design at Budi Luhur University who were conducting research on Garbage Banks. On the first day of the training, new participants understood and practiced how to fold coffee packs and weave 1-3 coffee packs. Furthermore, on the second day the participants were able to weave coffee wrappers to form a coin purse and add a zipper as a closure. Of the 16 customers present, 8 participants successfully completed making coin purses. This training is different from the management of inorganic waste by (Santoso *et al.*, 2021) which only produces vases, bookshelves and mukenas as well as flowers from newsprint and plastic wallets (Linda and Suryadi, 2020). This community service is prioritized to learn the technique of folding and weaving coffee wrappers into coin purses and key chains which are still relatively few found in previous community services.

Organic waste training in this service supports organic waste management by Titin Rahmayanti Rambe (Rambe, 2021) by producing eco enzymes from organic waste. This community service is prioritized to learn the technique of folding and weaving coffee wrappers into coin purses and key chains which are still relatively few found in previous community services. With this training, it is hoped that all residents can experience increased income from the sale of inorganic waste recycling products. As for one of the community service references, it comes from the predecessor journal by (Pranata *et al.*, 2021) which utilizes organic waste to become an Eco Enzym multipurpose liquid.

MATERIAL AND METHOD

Method of devotion to participatory society implemented through training. The target of service activities these people are citizens Pinang Griya Permai housing which is located in Kelurahan Pinang, Tangerang city. Activities carried out in June 2022. Training done to deliver knowledge to citizens managing inorganic waste and Utilization of organic waste that can be used for various purposes .

Implementation of this activity carried out in 4 (four) stages, namely: preparation, outreach, training, as well as monitoring and evaluation (Ariyunita, 2022).

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1. Preparation

The preparation stage for community service begins with a location survey that will become the object of community service. the survey carried out in cooperation with the Bank Lotus Trash. *Focus Group Discussions* are conducted with partners with the aim of finding out the problems that the community service partner has, in this case the Teratai Garbage Bank.

2. Socialization

At this socialization stage, a presentation was made on the importance of conducting waste management and the application of the 3R concept (*reduce, reuse, recycle*) in waste management. In addition, techniques that can be used in the utilization of inorganic and organic waste are also presented (Sulistyani, 2017).

3. Training on Organic and Inorganic Waste Management

Organic and inorganic waste management practices . Tool The materials used during the training were laptops, LCDs, microphone and camera. Whereas materials used are organic and inorganic waste. At the end of the activity, participants were given a questionnaire to determine their level of understanding of the training material provided. The results of the questionnaire were analyzed to determine the percentage increase in residents ' knowledge of organic and inorganic waste management.

4. Monitoring and Evaluation

Monitoring and evaluation is done by coordination and consultation between teams community service with partners after training on organic and inorganic waste management.

RESULT AND DISCUSSION

This training contains two topics of activity, namely training on recycling inorganic waste and organic waste (eco enzyme). Inorganic waste training will be held on 1-2 June 2022 from 09.00 to 14.00 WIB at the RT Multipurpose Post. 07/RW. 05 Pinang Griya Permai, Pinang district, Tangerang city. This training brought in Mrs. Tutik Asmawi as the coordinator of the Budi Luhur Garbage Bank. The material presented by Ms. Tutik was related to training in making coin purse handicrafts made from Kapal Api coffee packets or sachets. This training was attended by 16 customers, 1 administrator, 6 students, 3 PKM team lecturers, 3 presenters from the Budi Luhur Waste Bank team. The training begins with a presentation of material related to the general description of the Budi Luhur Garbage Bank, work programs and gold savings in partnership with pawnshops. In the second session, the material was filled with workshops on making handicrafts (coin purses from fire boat sachets). This handicraft technique contains 4 processes. The first process begins with cleaning the coffee wrapper and then cutting the top

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and bottom. The second process, every coffee pack is folded. The third process, weaving to form a coin purse by combining at least 15 coffee packs. The fourth process, adding a zipper to the coin purse by hand sewing manually.

In this inorganic training, participants were dominated entirely by housewives (over 40 years old) while there were only two fathers as RW administrators. Millennials' level of participation was not found in this activity. On the first day of the training, new participants understood and practiced how to fold coffee packs and weave 1-3 coffee packs. Furthermore, on the second day the participants were able to weave coffee wrappers to form a coin purse and add a zipper as a closure. Of the 16 customers present, 8 participants successfully completed making coin purses. This training is different from the management of inorganic waste by (Setiabudi et al, 2021) which only produces vases, bookcases and mukenas as well as flowers from newsprint and plastic wallets (Linda et al, 2020). This community service is prioritized to learn the technique of folding and weaving coffee wrappers into coin purses and key chains which are still relatively few found in previous community services.

The next training, organic waste processing will be held on June 7-8 2022 at 09.00 until it finishes at the Beo RT Post. 07/RW. 05 Pinang Griya Permai, Pinang district, Tangerang city. This training invited Mrs. Tutik Asmawi as a guest speaker who explained how to make eco enzymes using kitchen waste. The kitchen waste consists of: fruit peels and leftover vegetable ingredients (rest of celery leaves, kale stalks, spinach stalks). This training was attended by 22 customers, 3 administrators, 6 students, 3 PKM team lecturers, 3 presenters from the Budi Luhur Waste Bank team. On the first day, the training began with a presentation on organic waste and eco enzymes by Ms. Tutik Asmawi. After the presentation of the material, participants understood the materials needed for the manufacture of eco enzymes. Furthermore, on the second day the participants practiced making eco enzymes using materials that had been brought by each participant. Making eco enzymes consists of 4 stages. In the first stage, participants cleaned materials in the form of kitchen waste using clean water. In the second stage, the clean ingredients are cut into small pieces. The third stage, all the chopped ingredients are put into a closed container such as a bottle filled with water mixed with brown sugar. The fourth stage, the container is closed tightly and opened every two weeks. After two weeks of opening the bottle, it produces gas to clean the air and water vapor for healthy skin. The atmosphere of inorganic waste management training activities can be seen in Figure 1. and Figure 2.

This training is different from organic waste management by (Rambe, 2021), where in the training, the facilitator only gives an example of making eco enzymes with one sample. Participants only saw the manufacturing process without doing direct practice. Nindya (2022) conducted education on organic and inorganic waste processing in Rejasa Tabanan Village. In the organic waste processing activity, the community service team only focused on explaining the process of making compost. This community service is prioritized for learning the manufacture of eco enzymes, where the community (citizens) directly practice making their own by looking at the examples given by the facilitator.

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Figure 1.
The atmosphere of inorganic waste management training activities.

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Figure 2.
The atmosphere of inorganic waste management training activities.

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After implementing organic waste management training activities for Pinang Griya Permai housing residents and collecting questionnaire data from 18 participants (female and over 35 years old), the results are presented as follows:

a. Participant satisfaction with training activities

In assessing the aspects of participant satisfaction with training activities, 33.3% of respondents said they were satisfied and 66.7% of respondents said they were very satisfied. The graph of the questionnaire results is shown in Figure 3.

b. Benefits of training activities for participants

In the aspect of assessing the usefulness of training activities, 22.2% of respondents said they were satisfied and 77.8% of respondents said they were very satisfied. The graph of the questionnaire results is shown in Figure 4.

c. Evaluation of training implementation

In assessing the schedule, 50% of respondents said it was good and 22.2% of respondents said it was very good. In the evaluation of the presenter, 61.1% of respondents said it was good and 16.6% of the respondents said it was very good, while in the evaluation aspect of event services, 55.5% of respondents said it was good and 22.2% of respondents said it was very good. The graph of the questionnaire results is shown in Figure 5.

d. Assessment of resource persons (speakers)

In the assessment of material mastery, 38.8% of respondents said it was good and 50% of respondents said it was very good. In assessing the suitability of the material with the theme, 27.7% of respondents said it was good and 50% of respondents said it was very good. In the aspect of assessing the ease of understanding and understanding material, 33.3% of respondents said it was good and 44.4% of respondents said it was very good, while in the assessment of the method of delivering material, 44.4% of respondents said it was good and 44.4% of respondents said it was very good. The graph of the questionnaire results is shown in Figure 6.

After implementing inorganic waste management training activities for Pinang Griya Permai housing residents and collecting questionnaire data from 11 participants (female and aged over 35 years), the results are presented as follows:

1) Participant satisfaction with training activities

   In assessing the aspects of participant satisfaction with training activities, 100% of respondents stated that they were very satisfied. The graph of the questionnaire results is shown in Figure 7.

2) Benefits of training activities for participants

   In the aspect of assessing the usefulness of training activities, 18.2% of respondents said they were

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satisfied and 81.8% of respondents said they were very satisfied. The graph of the questionnaire results is shown in Figure 8.

3) Evaluation of training implementation

   In assessing the schedule, 54.5% of respondents said it was good and 27.2% of respondents said it was very good. In the evaluation of the presenters, 45.4% of respondents said it was good and 27.2% of respondents said it was very good, while in the evaluation aspect of event services, 54.5% of respondents said it was good and 27.2% of respondents said it was very good. The graph of the questionnaire results is shown in Figure 9.

4) Assessment of resource persons (speakers)

   In the assessment of material mastery, 45.4% of respondents said it was good and 36.3% of respondents said it was very good. In assessing the suitability of the material with the theme, 36.3% of respondents said it was good and 36.3% of respondents said it was very good. In the aspect of assessing the ease of understanding and understanding material, 45.4% of respondents said it was good and 36.3% of respondents said it was very good, while in the assessment of the method of delivering material, 45.4% of respondents said it was good and 35.3% of respondents said it was very good. The graph of the questionnaire results is shown in Figure 10.

CONCLUTION AND RECOMMENDATION

This community service activity provides alternative solutions to overcome environmental problems by utilizing organic and inorganic waste into products that are of use value and of economic value. Communities around the Bank Lotus Trash also feel the benefits through increased understanding related to household-scale waste management. Training is considered according to the needs of partners and trainees. Based on the results of the questionnaire after the training was carried out, 100 % participants stated that the material presented was in accordance with their needs, and the material presented was also considered useful by 100 % of the participants.

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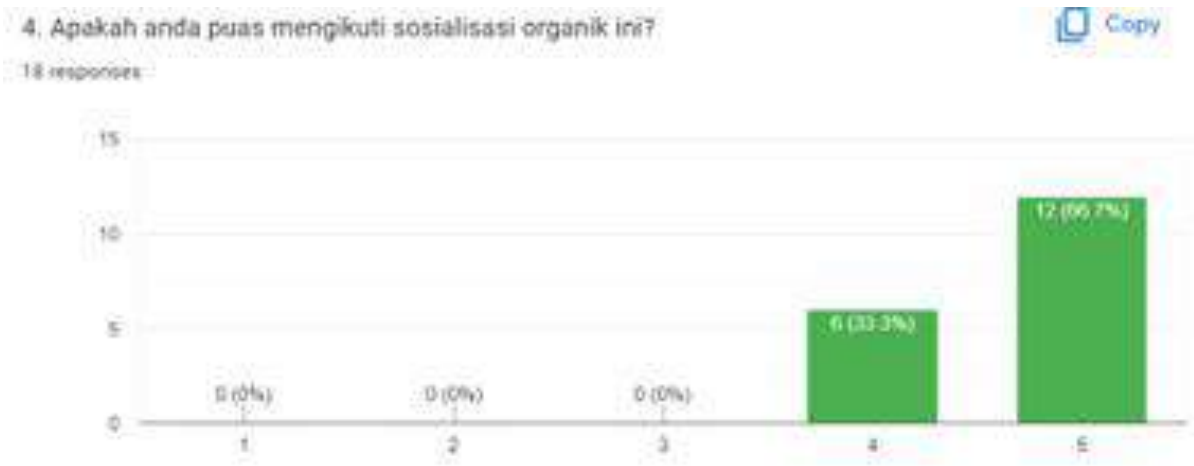

Figure 3.
Questionnaire Results: Participants' satisfaction with training activities.

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Figure 4.
Questionnaire Results: Benefits of training activities for participants.

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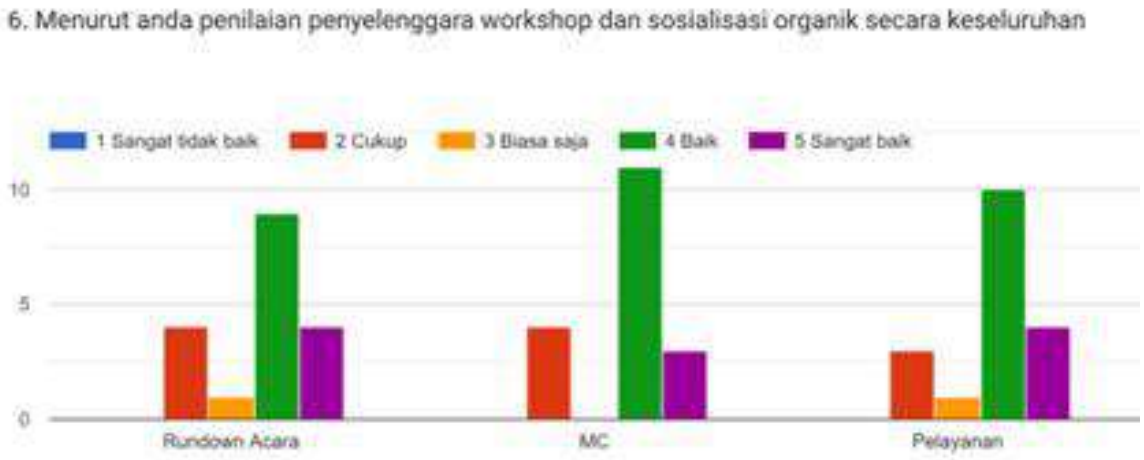

Figure 5.
Questionnaire Results: Assessment of training implementation.

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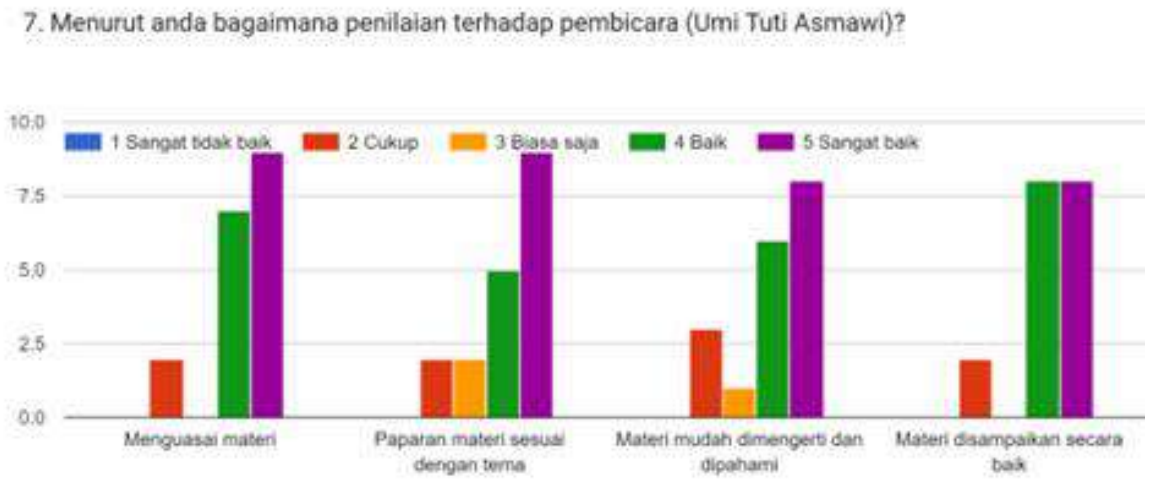

Figure 6.
Questionnaire Results: Assessment of resource persons.

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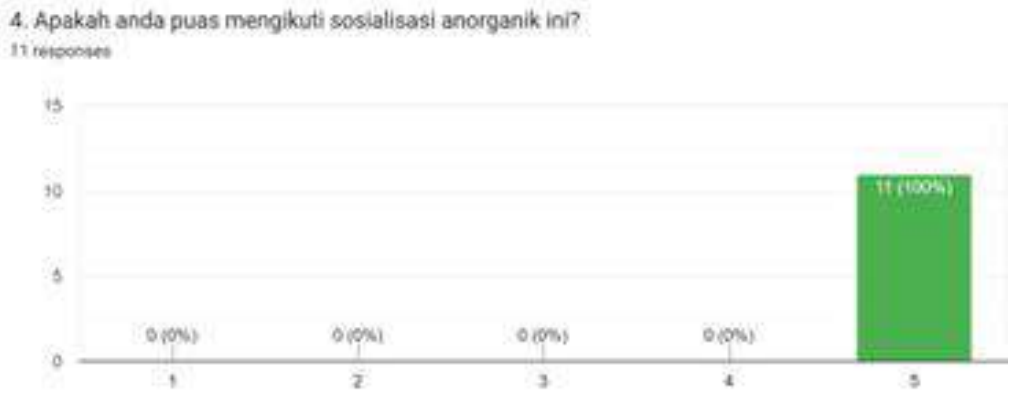

Figure 7.
Questionnaire Results: Participants' satisfaction with training activities.

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Figure 8.
Questionnaire Results: Benefits of training activities for participants.

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Figure 9.
Questionnaire Results: Assessment of training implementation.

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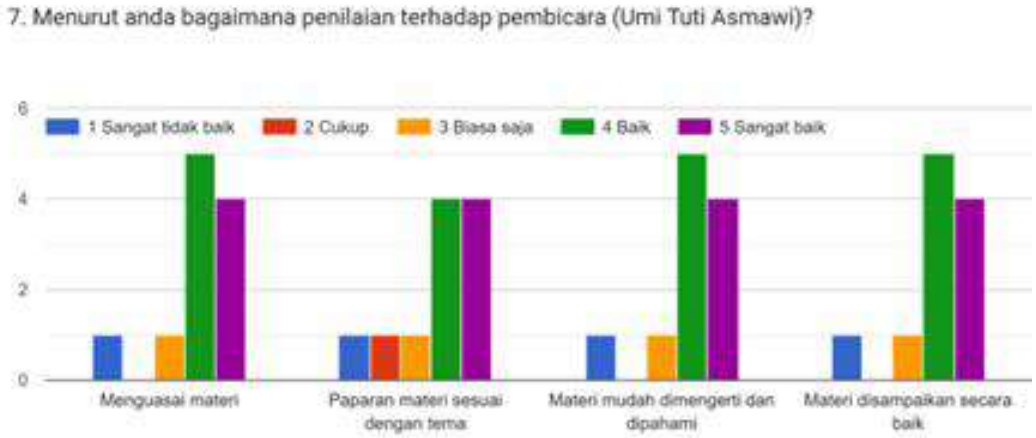

Figure 10.
Questionnaire Results: Assessment of resource persons.

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