



# U & ME

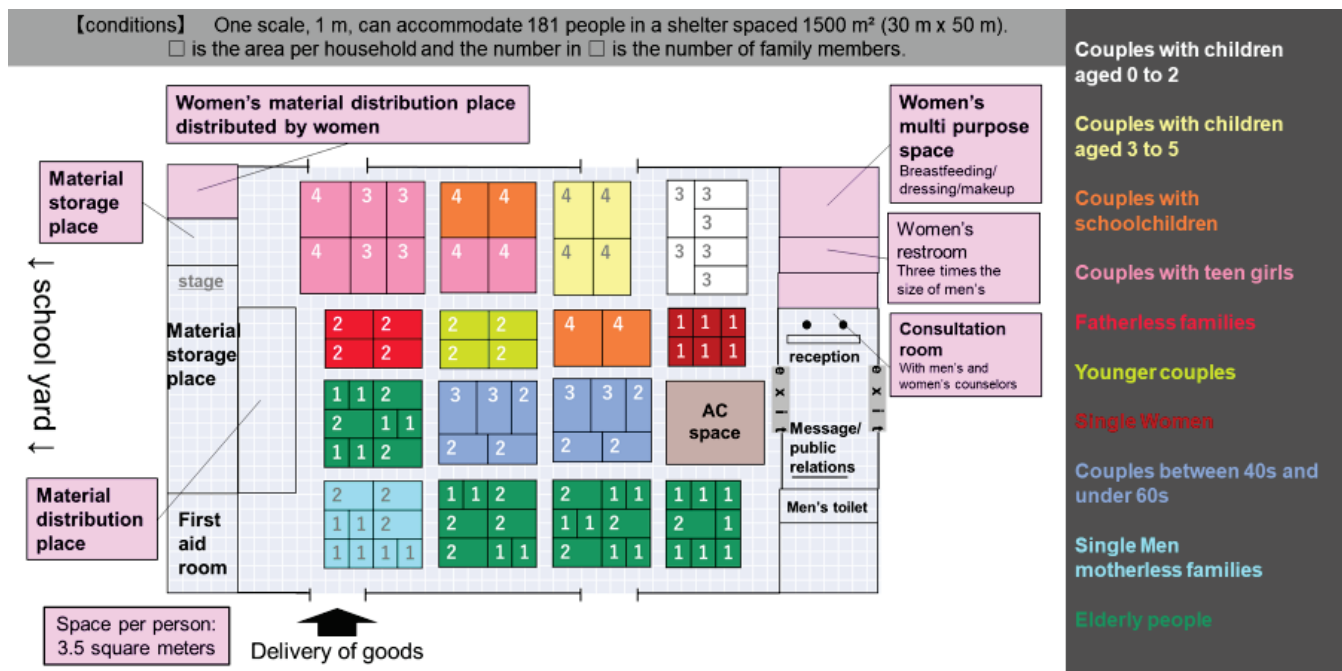
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## What Is the Ideal Shelter for Women?

In the event of evacuations caused by disasters, women are more likely to be in vulnerable situations. Hence, we have planned a new model of evacuation shelter for women, with adjusted area of personal spaces, increased number of toilets and the installation of multi-purpose spaces. We hope to urge more women to be involved in the management of evacuation shelters with this new model.

In The 2016 Kumamoto Earthquake, it was reported that more than half of shelters positioned for evacuations had neither fitting rooms nor nursing rooms for women, and had scarce supply of women's relief goods. Such factors along with the lack of women's viewpoints only advance women's vulnerability.

Therefore, we propose a new evacuation model designed inside a gym (fig.①). In accordance to the Humanitarian Charter and Minimum Standards in Humanitarian Response (The Sphere Standard), the space per person over the age of 6 is set to 3.5m<sup>2</sup> (2m×1.75m), 1.75m<sup>2</sup> for



①Floor plan of the ideal shelter model

children aged 3 to 5 and 0m<sup>2</sup> for 0 to 2-year-olds. In addition, we placed additional portable toilets including multi-purpose toilets in the school yard. The number of men's and women's toilets is set to the ratio of 3:1 (fig.②), following the address of the Cabinet Office Gender Equality Bureau. We also set consultation

rooms nearby women's restrooms which both women and men can use. Lastly, we stationed multi-purpose spaces with movable partition to secure as much evacuation area as possible. This space is separated into fitting, nursing and powder rooms.

Why was the new model designed in such a way? Mr. A, who volunteered in Kesenuma, Miyagi Prefecture within 1 month after the Great East Japan Earthquake, said "People were gathered in very small spaces and others' conversations were easily heard; privacy didn't exist". Hearing this comment, we focused on creating more space and passageways so that people can access necessary goods more easily. Also, Takahashi Atsuko

from Disaster Prevention Network Suwa said "Men often are in charge of information exchange. As a result, women tend to have more difficulties receiving information." For this reason, we decided to place consulting rooms.

Finally, if this model was applied in real evacuations, not only women but men will be able to live a little more comfortably. However, it is not only the municipal staffs that undertake the management of evacuation centers. We are also required to actively participate for better shelter management.

By Misaki Fujita, Mai Watanabe, Haruka Nagahara, Moeka Beppu, Sumi Midorikawa



②State of the toilet in the ideal shelter model

Created by Moeka Beppu

## NOTICE TO READERS

This newspaper, U&ME, aspires to address world issues that Ochanomizu High School Grade 3 Class of Ume has drawn attention to in the previous year.

The contained research consists of a variety of different topics that have been passionately explored by each of the students. It is an alternative way for us to showcase our findings in consideration of the

year-end school symposium being cancelled due to the pandemic.

Covid-19 has spread to every corners of the earth, and we are still knee-deep in the crisis with billions affected. We now stand in an unprecedented situation, living in a world that is different from anything we have seen in history. We have come to an utter realization that we live in a global society, and more

than ever, we need each other. As world citizens, we have the obligation to come together to resolve obstacles that come our way: Anyone from various walks of life may be associated with them in some shape or form.

Through the connection of "U" and "ME", we hope to share and encourage you to consider the presented issues as your own.



← Take a look at our web page online!

Have you ever imagined having to evacuate? Women are more likely to be in vulnerable situations in those times.

Let's think about adequate evacuation shelters with us where everyone would feel comfortable.

# Doubt Your Views of Agrochemicals



What are your thoughts on agrochemicals? Some people may think they are dangerous. We conducted a questionnaire about the impressions of agrochemicals, which showed 80% of the respondents had negative images. Do we even need agrochemicals?

We think the answer is “YES”.

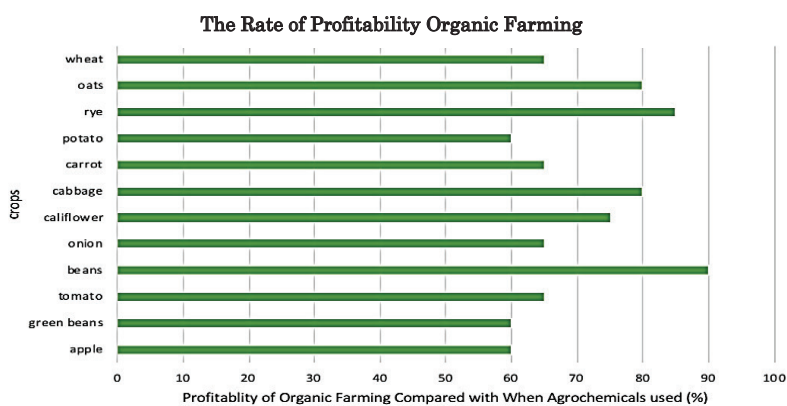
The main purpose of using them is to increase harvest. The bar graph below indicates the amount of harvest with and without the use of agrochemicals (graph).

It shows that when we do not use agrochemicals, less crops are produced. To secure the supply of

products, agrochemicals are a necessity.

Next, let's take a look at the safety of agrochemicals. Social problems caused by agrochemicals had been an issue in the past. For instance, PCP, though cheap and popular, was highly toxic and was difficult to be decomposed. To make the matters worse, in 1961, it had spilled out into the ocean, threatening marine life. However, agrochemicals have improved since then. The list on the right indicates that while past agrochemicals took a few years to be decomposed, it now only takes no more than a few months (list).

From our research, we believe



Source: Hideo Fukuda (2000) Misunderstanding and Prejudges for Agrochemicals

## Development of easily degradable pesticides: soil residues

Past pesticides	(75-100% disappearance)	Recent pesticides	(Half-life)
Chlordane	5 years	Acrinatrine	16-68 days
DDT	4 years	Silazulofen	29-35 days
BHC	3 years	Fluazinam	6-62 days
Aldrin	2 years	Phenoxy carb	6-7 days
Subsequent pesticides	(75-100% disappearance)	Caffeine stroll	4-11 days
Diazinon	Three months	Quizalofop-ethyl	Within 1 day
Malathion	1 week		

From various literature values such as agricultural time signals  
\* Container test (soil temperature 25 ~ 30 °C)

Source: AJINOMOTO CO. INC (1996-2020)

that agrochemicals should be used. To make more people understand the reality of agrochemicals, we need to introduce its necessity to consumers and advance the traceability system. This enables the consumers to know the movement of food, with producers notifying information about products (e.g. types and amount of fertilizers and agrochemicals used) to consumers. If and when complications occur, it is easier to determine which stage of the distribution was problematic.

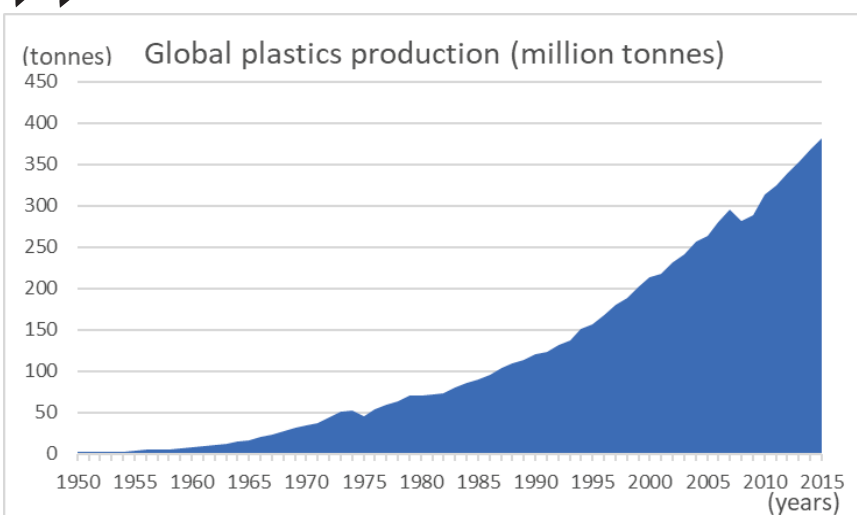
However, the number of producers who keep records is only a few.

The reasons for it involve the difficulties of data collection, and the necessity of it not being widespread. Establishing better processes of the traceability system and management of products by both producers and consumers remain a central issue.

What's important is to pay attention to what you consider safe or dangerous. Having the right knowledge helps us improve food safety.

By Erika Sakurai, Rin Oishi, Nao Kudo, and Maya Kurokawa

# Listen to the Heartrending Cry of Our Sea



Source: Our World in Data plastic pollution

In recent years, plastic has become an essential part of our lives. Global production is increasing year by year, reaching 400 million tons in 2018, 200 times higher than that of 1950. Currently, 8 million tons of plastic flows into the sea every year worldwide, and most of them come from developing countries. Why is this a serious global issue? This has association with decomposition of the material.

Since most plastic is made from petroleum, they will not decompose naturally and exist semi-permanently, while natural organic materials such as wood can be broken down into carbon dioxide and water with the presence of microorganisms. Plastic, made up of high molecular compounds, is very durable. This characteristic, though advantageous to products, will be a major obstacle when it becomes garbage. Hence, we

should reduce the amount of plastic that flows into the sea.

However, it is difficult to reduce them from developing countries: They tend to lack the technology for garbage disposals and are not accustomed to throwing away garbage appropriately, which is why developing countries require economic assistance from developed countries. However, it is unlikely that each of us in developed countries can participate at such a large scale.

Then what can we do? One of the widespread solutions is disposable paper bags. Compared to chemical shopping bags that keep floating once they are out into the sea, they may protect more sea creatures with its ability to return to nature. However, the overproduction of disposable paper bags may cause another problem; deforestation. This affects not only ecosystems, but also our surrounding environment. Therefore, the more effective approach is to “use our own bags”. By doing so,

we can reuse bags and won't produce garbage. Why don't you start your contribution to plastic reduction by using your own bag and saying, “Don't worry about the plastic bag!”

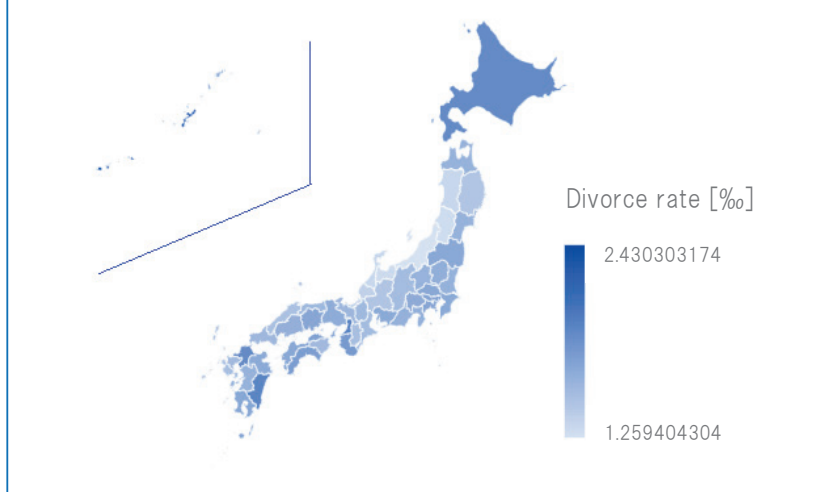


A member picking up garbage  
Photo by THE SEA BEAUTIFICATION SOCIETY

By Kaho Maita, Izumi Ou, Mao Omori, Nako Tsuyuki



# Relation Between Divorce and Childcare



Divorce rate in each prefecture

Created by Haruka Takeuchi

Why do divorces occur? We used statistical methods to examine the causes of divorce, and found that "solo parenting" (parenting without any help from one's spouse) is presumably one of the factors.

To determine the "number of divorces" and "causes of divorce", we excluded differences between each prefecture's population which will affect the correlation.

We hypothesized that the difficulty of raising children would cause troubles, leading couples to divorce. Such difficulties, and nowadays frequent occurrences of divorce, may have stemmed from the shortages of nursery schools. Therefore, we calculated the partial correlation coefficient between the number of divorces and the number of children on the waiting lists for nurseries in each prefecture. Contrary to our expectations, the correlation was -0.03, however, since the values of Tokyo and Osaka were found to be

outliers, we calculated once again excluding the two prefectures. The result was 0.36, which implies that the two factors are related to a positive correlation.

After such result, we decided to bring forth the second hypothesis: the more difficult the environment is to take childcare leave, the more increase will be visible in the divorce coefficient.

However, the correlation turned out to be negative. Therefore, our second hypothesis was revealed to be wrong.

Then, we hypothesized that the advancement of women in society might affect the rates of divorce. To put this to the test, we considered the number of female workers. It was expected that a positive correlation would be obtained from the number of divorces with prefectures and the number of female workers. When the partial correlation coefficient was calculated, the result showed a negative correlation of -0.36, which was

different from the hypothesis.

Currently in Japan, men tend to take less childcare leave than women. Therefore, we predicted that a situation in which only women are in charge of housework would cause childcare problems.

Later on, we examined the correlation between the divorce rate and the percentage of men of in each prefecture who believe that it is desirable for husbands to go to work and wives to focus on housework. The result was 0.43. This shows that two factors are related to a positive correlation.

The stereotype that women with small children should not work could be one of the reasons why women decide to take maternity leave or to raise children on their own.

Therefore, we hypothesized that there is a correlation between the divorce rate and the number of men who have the such stereotypes for women.

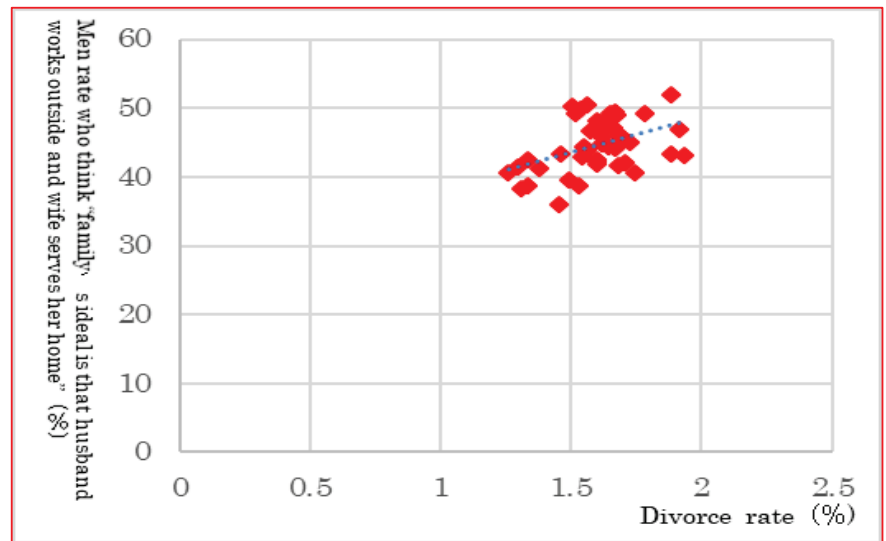
The partial correlation coefficient was 0.29, but since the value of Okinawa was found to be an outlier, we excluded the prefecture and calculated once more.

The result was 0.43; a positive correlation which supports the hypothesis.

It is understandable that there is a negative correlation between the number of divorces and the number of women employed (hypothesis 2-3), as it becomes difficult for women to work when they have to raise children on their own.

In conclusion, these statistics corroborate the fact that solo parenting is one of the causes of divorce.

By Haruka Takeuchi, Hikaru Otsuka, Hana Kawanishi, Toko Koie, Ayuru Nagai, Kyoko Murata, Mizuki Yokoyama



Created by Haruka Takeuchi

## The Way to Survive Learning from a Game

Can you survive when natural disasters occur? When General Research Co., Ltd. surveyed 1,200 Japanese people whether they have prepared for disasters, more than 70 percent of the participants said they have not. Japan is an earthquake-prone country. Being on the constant lookout for such situations may affect our crisis-response capabilities. However, we believe many people are too lazy to set them up.

To help solve this issue, we made

a game software which teaches us how to cope with disasters when we are at school. We referenced reasonable items to put into use during evacuation, such as using newspapers instead of beds, utilizing plastic bags to treat injuries, and creating fire with oil and clothes. The game pushes us to survive for a week by putting these methods into use.

This game software allows us to learn survival skills for disasters while having fun. Pictures in the

game help users understand and imagine ways of survival.

We hope to create more games specialized for disasters such as typhoon and flooding in the future.

By Wakana Yoshihara, Sakiko Itahashi, Myu Sasaki, Yoshika Hosonuma, Kaya Moribe

Sample of the game software  
Created by Wakana Yoshihara



## Jizo Atsume

Jizo is one of the statues worshipped by Japanese civilians, which was believed to relieve people of suffering such as sickness at a time when clean environments and medical supplies were scarce. Jizo has various characteristics connected to local customs of which it was made.

Throughout our research, we found that Jizo existed independently in various parts of the country, and that the approximate number of Jizo in regions had little difference. This led us to the concepts of our app "Jizo Atsume", which aims to attract foreigners to visit rural areas of Japan.

Now, let us give you an overview of "Jizo Atsume".

"Jizo Atsume" is an app that goes around Jizo in various parts of Japan and collects Jizo photos taken by users themselves.

By collecting Jizo photos, various regions of Japan will be spotlighted, and the app will promote

regional revitalization.

There are three major functions on the app.

The first is the automatic pixel art convention function, which automatically converts Jizo photos into pixel art within the app when you take pictures of them. We tried to make our app unique from other collection-type apps and devised a way to give warmth to the screen. In addition, not only photographs but also maps are made into pixel art to give a sense of unity to the screen.

The second is the "Jizo Points" which can be earned by playing "Jizo Atsume". You can earn points by 1) travelling around Japan, taking pictures of Jizo, and collecting Jizo, and 2) "Offering" to the collected Jizo (explained in detail below).

There are two main ways to use the "Jizo Points". In the real world, they can be exchanged for store coupons that use location informa-

tion system of a smartphone to pick up stores around the user's location, and display exchangeable coupons. With this function, tourists, first-timers and foreigners alike, will be able to use coupons to efficiently go to stores and increase the chances of experiencing the characteristics of each region. This way, it can be expected that the tourists' interests toward regions will activate the economic cycle in different parts of Japan, which will lead to further development of regions.

"Jizo Points" can be used to upgrade the function of the "Jizo Atsume" app.

The last function to be introduced is the "Offering". This is a function to offer the collected Jizo to another Jizo by enshrining it in the app. You can get more "Jizo Points" by making the "Offering". In addition, there are grades in the offering: The higher the grade, the lower the chance is to acquire it.

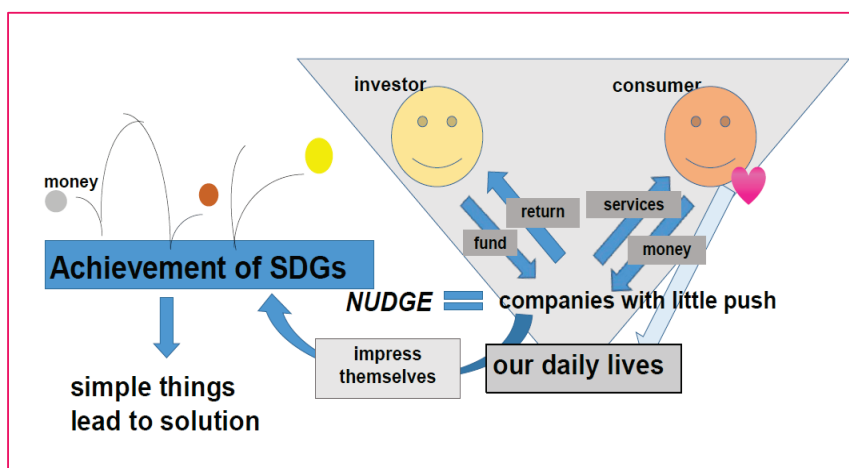
We hope to encourage you to contribute to regional revitalization by playing "Jizo Atsume".



Jizo at a student's grave  
Photo by Miko Saigusa

By Yuka Kondo, Miko Saigusa,  
Yuka Sato, Kyoka Terazawa

## You Wanna Change the World? SDGs×NUDGE



SDGs×NUDGE circulation

Created by Emika Funakoshi

Many of us feel that we want to contribute to society in some way. In fact, the consciousness of social issues and problems are getting higher and higher, thanks to the increasing recognition of SDGs. SDGs, which stands for Sustainable Development Goals, is "the 2030 Agenda for Sustainable Development" adopted by the United Nation in 2015. Institutions such as governments, companies, schools are all striving to contribute to it. However, these goals are not completely acknowledged in society, especially in Japan. It's because many of us feel the scales of SDGs are too large. How can we solve

this problem? Let us introduce you to *NUDGE*.

*NUDGE* is "any aspect of the choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives", remarked by Richard H. Thaler, winner of the Nobel Prize in economics.

In short, *NUDGE* means 'leading people to make a particular choice by small actions'. Utilizing this theory, we propose the "SDGs×NUDGE circulation"; the new way of promoting SDGs by making an economical circulation in society. The circulation starts

from companies acting as suppliers. The concept is as follows:

### [SDGs×NUDGE cycle]

1. Companies provide services and products associated with SDGs (ex) a bag which is made from recycled bottles), and advertise their products to consumers (ex) putting SDGs labels on their products).

2. Investors support these projects indirectly through investments.

3. Consumers pay attention to companies' PRs, and purchase goods and services related to SDGs.

In such fashion, companies work on SDGs directly through their production, and investors do so indirectly by investing, and consumers by shopping. By repeating these activities, we can make a social cycle, and contribute to the achievement of SDGs.

### [Three advantages]

1. Companies would be able to continue making contributions to society full of complicated issues, while gaining money both from investors and consumers.

2. Consumers can contribute to solving social problems through shopping.

3. Investors as well as consumers

can contribute through investments.

We can make our society better and better without relying on certain individuals, so we can expect sustainability.

By Aino Suzuki, Manaka Seki, Miu Sakai, Atsumi Sawamoto, Saya Tanaka, Yui Futawatari

### U&ME

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