Methodology of Teaching the Subject of Parameter Repetition Operator (In the example of the Python programming language)

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ABSTRACT

The article outlines methods of teaching a parameter repeat operator in teaching programming languages based on interfaith methods in the example of python programming language

Keywords: Generation Z, interactive methods, programming language, for operator, python.

Log In

Today's generation of educators is called Generation Z. They are descendants of the digital age. The Z generation differs sharply from previous ones in all aspects. They are constantly developing and forward-looking. This generation is also called the "Descendant of the Wundirkins." Adolescents of Generation Z are hard to understand, but these young people can only be employed when they understand how and with what they live [1].

It is important to note that in teaching programming languages to generation Z representatives, they work with constant digital information and have the ability to use global networking and social networking facilities. Representatives of this generation cannot be interested in traditional classes. To make them widely involved in the educational process, you will need to use the electronic file, virtual stand and trainers, educational platforms, infographics, onlayt tests and surveys.

Adabiotics Analysis

Today, there are many programming technologies and advice on learning programming languages over the Internet. But in the age of digital technology, this knowledge quickly becomes obsolete and unnecessary information. It is necessary to find and study and teach truly relevant and consumable material among them [2].

A lot of research has been done on teaching programming languages. We tested:

- Jemchujnikov Dmitry Grigorevich - developed a methodology for teaching programming based on the creation of dynamic computer games by m actab students[3];
- Rojina Irina Venokentevna - improved the methodology of teaching students object-oriented programming and visual design technologies in an information course [4];
- Grebneva Darya Mikhailovna conducted scientific research on teaching schoolchildren programming on the basis of a semiotic approach[5].

Result

To solve problems facing the education system in modern innovative processes, new information needs independent and free-thinking individuals who are able to evaluate by themselves the knowledge they have acquired and make the necessary decisions.

That is why the role and importance of modern teaching styles, interfaith styles, innovative technologies, is insignificant in the educational process of educational institutions. Knowledge and experience in pedagogical technology and their application in education emphasizes that students have a knowledgeable and mature qualification [6].

Interactive methods are usually organized in individual, pairing, group, and community forms. In explaining the repeat operator, it is necessary to first divide the students into two groups, and then form pairs within that group. One of the main difficulties of switching the parameter repeat operator is that it consists of two parts. For example:

for i in range(5,12,2): print(i*i-3)

When determining the result of this application board, it must first be determined what values the i paramert accepts. In the above example, it accepts values of 5.7,9,11. After that, the action to be performed according to each value of the parameter willbe determined. That is, when i=5, 5·5-3=22 is printed, 46 are printed when i=7 is i=9, and 118 are printed when i=9 is 78 and i=11. It is a good effect to use a "live counter" method to turn such a thought process into a skill.

Discussion

Step 1. Participants in both groups are divided into small groups of two individuals. Small group members take turns appearing in the file. They choose from cartridges with the following software boards:

1- ishtirokchi uchun	**2-ishtirokchi uchun**
for i in range(5, 12, 2):	print(i * i - 3)
for i in range(9):	print(i + i * 2)
for i in range(13, 3, -2):	print(i - 10)
for i in range(2, 13):	print(6)
for i in range(8, 3):	print(i * 2, sep=':')
for i in range(7):	print(i ** (-1), sep=',', end='!')
for i in range(12, 3, -1):	print(i, sep='')

So one of the participants will only select which code to print the distribution with the for operator inscribed on the other. They don't see the code in each other's distributions. For example, participant 1

for i in range(5, 12, 2):

If the application in the view chooses the tablet, it will record the following entry in the file:

i	
5	
7	
9	
11	

The second participant, for example, select the following software board:

print(i - 10)

In this case, he fills in the entry in the file based on the values of the i written by the 1st participant as follows:

i	print
5	-5
7	-3
9	-1
11	1

The rest of the group's participants will have to write down what distribution both participants have in their hands. The results of the first pair and the result of the group will be evaluated (5 points for the correct answer to each of the pair participants, and 5 points for the group's overall response). Then the pair in the second group is sown in the file. They also perform the same tasks as above. As a result, the activities of all couples will be evaluated, and the results of Phase 1 will be announced and moved to the second phase.

In this process, students will be able to master the principle of working for the for operator well, and when other participants of the group write the code themselves, they will have the ability not only to analyze the ready-

made program but also to develop an independent program based on those given it.

Step 2. Participants in both groups are divided into small groups of 3 people within their groups and alternatedly invited to the dossier. They are offered to choose one of the three sets of distributions. For example:

1-ishtirokchi uchun	**2-ishtirokchi uchun**	**3-ishtirokchi uchun**
for i in range(5,7):	for j in range(3):	print(i+j)
for i in range(15,7,-3):	for j in range(6,9):	print(i-j)
for i in range(8,1,-3):	for j in range(10):	print('i')
for i in range(3):	for j in range(i):	print(j*i)
for i in range(5):	for j in range(i+1):	print(j-i)

If the participants chose the following codes:
1-ishtirokchi: for i in range(5):
2-ishtirokchi: for j in range(i):
3-ishtirokchi: print(i-j)
They enter the following information into the file:

i	j	print
0	-	-
1	0	1
2	0	2
	1	1
3	0	3
	1	2
	2	1
4	0	4
	1	3
	2	2
	3	1

After small groups have finished recording the result based on application tablets, the rest of the participants in this group will determine what software tablets are written on their hands. The results of the students will be evaluated and then the members of the small group will be invited to the file. After all subseconditions write the results based on the distribution, the total scores are declared.

At this stage, students will be familiar with the working principle of a diarrhea repeat operator and will be able to analyze complex applications by implementing them.

Students can then be given an individual analysis of programs that include cycles that are large in size and are located in several drinks. It is desirable to use the timely achievements of information technology. In particular, group or individual online tests can be organized using platform opportunities such as Kahoot.com or onlinetestpad.com.

Conclusion

Suddenly shaping the thinking process that is characteristic of the programmer creates complexity. Such an approach, on the other hand, helps to form a form of thinking that serves to understand the parameter repeat operator. When you are now studying programming, it is difficult to fully understand the application board, such as the following:

```
for i in range(15,10,-1):
  for j in range(3,7):
    print(i-j+3)
```

But by gradually shaping the thought process, it is possible to develop complex programs and understand them.

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