

**DEMONSTRATION OF A NETWORKABLE PROGRAMMING LANGUAGE IN
MODERN PROGRAMMING LANGUAGES****Zokirova Sevarakhon Zafarbek***Daughter of, student of the Department of Applied Mathematics and Digital
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Annotation: *In this article, computer application of branching programming languages, algorithm and their program codes were solved in C#, C++, Pascal and Python programs.*

Keywords: *Network programming language, algorithm and program code.*

**ДЕМОНСТРАЦИЯ СЕТЕВОГО ЯЗЫКА ПРОГРАММИРОВАНИЯ НА
СОВРЕМЕННЫХ ЯЗЫКАХ ПРОГРАММИРОВАНИЯ****Зокирова Севарахон Зафарбек кизи***студентки кафедры прикладной математики и цифровых технологий
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Аннотация: *В данной статье программное обеспечение, алгоритм и файловый программный код сетевых языков решены в программах C#, C++, Pascal и Python.*

Ключевые слова: *язык сетевого программирования, алгоритм и программный код.*

**TARMOQLANUVCHI DASTURLASH TILLARINI ZAMONAVIY DASTURLASH
TILLARIDA NAMOYISH ETISH****Zokirova Sevaraxon Zafarbek qizi***Namangan Davlat Universiteti Amaliy matematika va raqamli texnologiyalar
kafedrasida talabasi*

Annotatsiyasi: *Bu maqolada tarmoqlanuvchi dasturlash tillarini kompyuterda qo'llanilishi, algoritmi va ularning dastur kodlari C# , C++, Pascal va Python dasturlarida hal qilindi.*

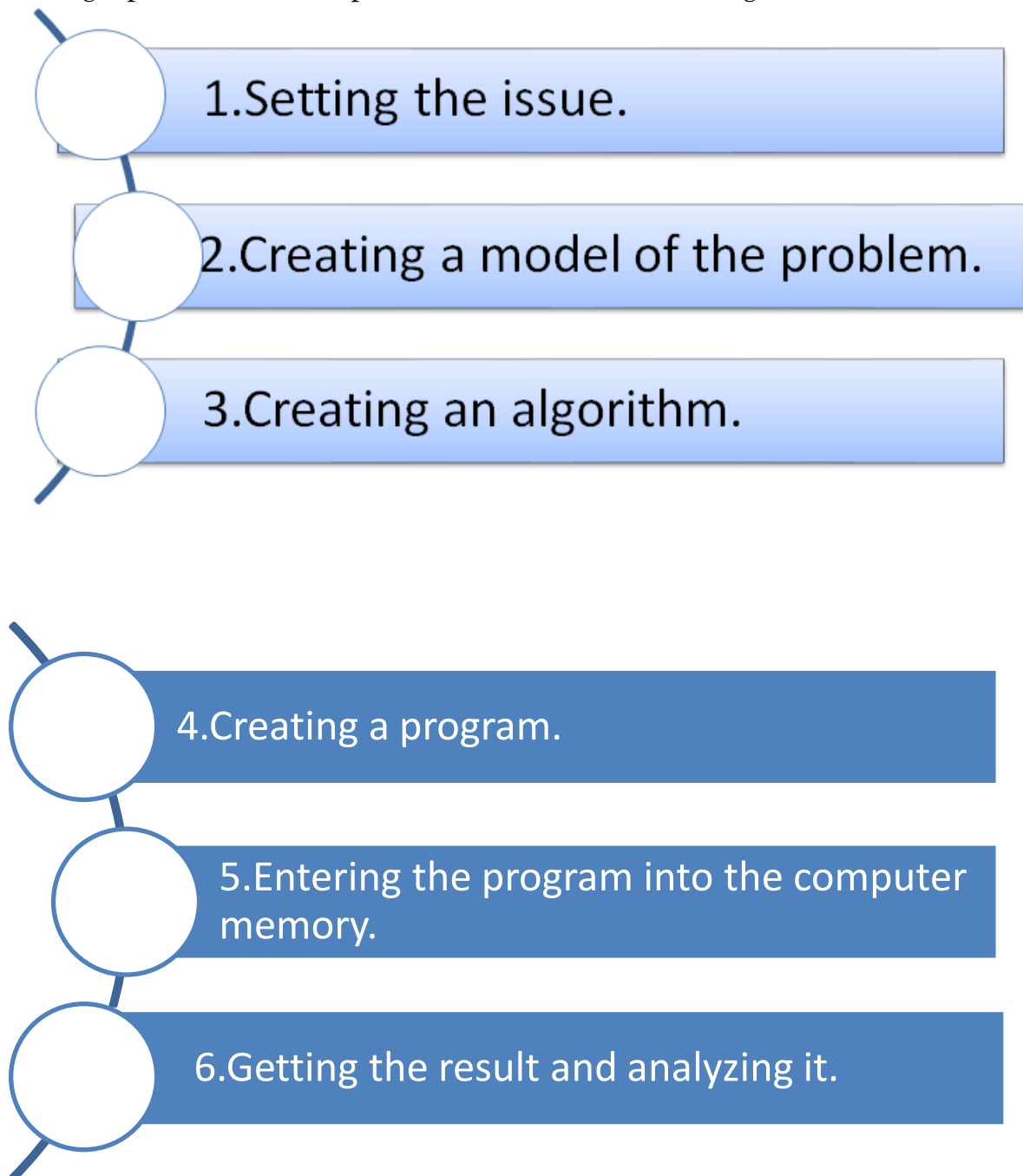
Kalit so'zlar: *Tarmoqlanuvchi dasturlash tili, algoritmi va dastur kodi.*

**DEMONSTRATION OF A NETWORKABLE PROGRAMMING LANGUAGE IN
MODERN PROGRAMMING LANGUAGES**

Computer programming is the process of giving various commands to the computer's microprocessor, when and where to change what and what to input or output. Nowadays, the need for computers is increasing, along with various modern

programming languages. The demand for programming language is also increasing. Today, the best programming languages are C#, C++, Pascal, Python, and so on. Algorithms created in the process of identification can be branched based on conditions, that is, when a condition receives a true value, one part of the algorithm receives a false value, and another part of the algorithm is executed. During the execution of the algorithm, the sequence of commands is branched into one or another part based on conditions is called.

Solving a problem on a computer is divided into several stages:



First of all, a mathematical model (model) is created that reflects the necessary aspects of the analyzed process or structure as fully as possible. The mathematical model is expressed in the form of a system of formulas and equations. In the next step, the

optimal calculation algorithm for solving the created mathematical problem is created. An algorithm is an ordered sequence of commands required to solve a problem, usually described using words or in the form of a block diagram. Any algorithm is divided into three main types depending on the logical structure, that is, the order of execution: linear, branching and iterative. Branching algorithms are described in words. If (conditional expression) then (count) else (count) The algorithm is 1 when the condition is true and 0 when it is false moves. 1 or 0 instead of true or false, + or -, yes or no order is possible. If the condition algorithm receives a true value, the algorithm + to commands on the side otherwise, it goes to the next sequence of commands.

EXAMPLE: X true number be given. Find the value of the given function f(x):

$$f(x) = \begin{cases} x^2 + \sin \frac{x}{(x^2-1)} + 2, & \text{if } x < 0 \\ x^3 + \ln \left| \frac{x}{x^2+x+1} - 2 \right|, & \text{if } 0 \leq x \leq 3 \\ x^4 + \cos \frac{x}{2}, & \text{else} \end{cases}$$

1) Setting the issue: $x = \quad f(x) = S = ?$

2) Creating a model of the problem:

We will introduce a condition first.

If ($x < 0$) $S = x * x + \text{Math.Sin}(x/(x * x - 1)) + 2$;

If ($0 \leq x \leq 3$) $S = x * x * x + \text{Math.Log}(\text{Math.Abs}(x/(x * x + x + 1) - 2))$;

Else $S = x * x * x * x + \text{Math.Cos}(x/2)$;

3) Creating an algorithm:

- Let it begin;
- X variable should be entered;
- We make a condition if ($x < 0$) if true $S = x^2 + \sin \frac{x}{(x^2-1)} + 2$;
- Else if ($0 \leq x \leq 3$) if true $S = x^3 + \ln \left| \frac{x}{x^2+x+1} - 2 \right|$;
- Else $S = x^4 + \cos \frac{x}{2}$;
- Enter S markings;
- Enter the value of that expression;
- Let it be printed;
- let it be completed.

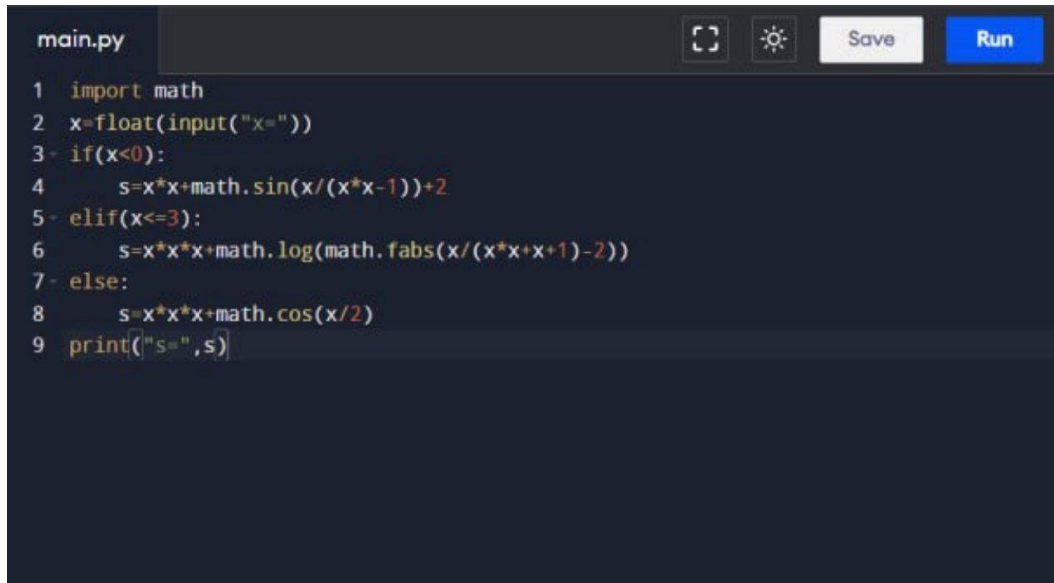
4) Creating a program:

```
import math
x=float(input("x="))
if(x<0):
    s=x*x+math.sin(x/(x*x-1))+2
elif(x<=3):
    s=x*x*x+math.log(math.fabs(x/(x*x+x+1)-2))
else:
```

```
s=x*x*x+math.cos(x/2)
print("s=",s)
```

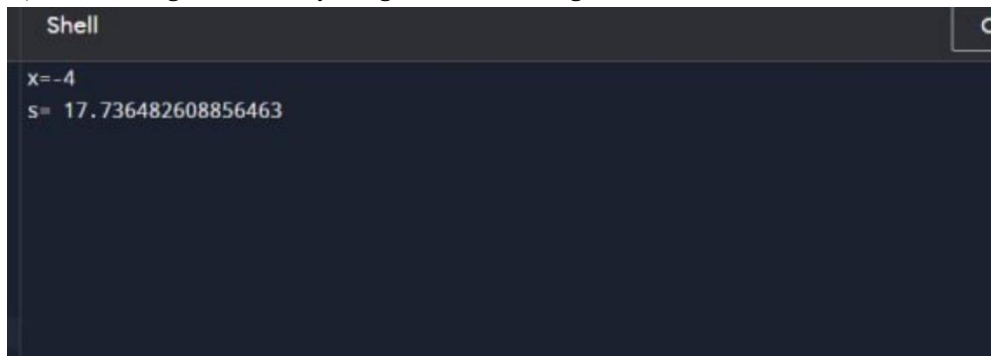
5) Entering the program into the computer memory:

Python programming language code:



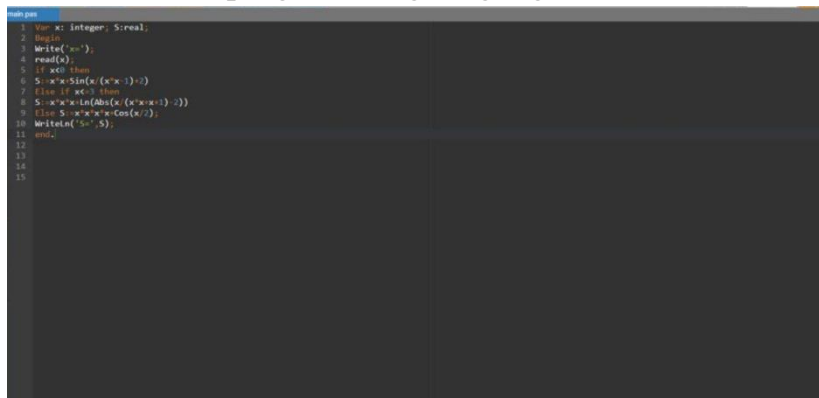
```
main.py [Run] [Save]
1 import math
2 x=float(input("x="))
3 if(x<0):
4     s=x*x+math.sin(x/(x*x-1))+2
5 elif(x<=3):
6     s=x*x*x+math.log(math.fabs(x/(x*x+x+1)-2))
7 else:
8     s=x*x*x+math.cos(x/2)
9 print("s=",s)
```

6) Obtaining and analyzing results: Program result:



```
Shell
x=-4
s= 17.736482608856463
```

Code in Pascal programming languages:



```
main.pas
1 var x: integer; S: real;
2 begin
3   WriteLn(' ');
4   read(x);
5   if x<0 then
6     S:=x*x+Sin(x/(x*x-1))-2
7   else if x<=3 then
8     S:=x*x*Ln(Abs(x/(x*x+x+1)-2))
9   else S:=x*x*x+Cos(x/2);
10  WriteLn('s=', S);
11 end.
```

Program result:

```
Free Pascal Compiler version 3.2.2+dfag-9ubuntu1 [2022/04/11] for x86_64
Copyright (c) 1993-2021 by Florian Klaempfl and others
Target OS: Linux for x86-64
Compiling main.pas
Linking a.out
14 lines compiled, 0.1 sec
x=-4
S= 1.6986819915383130E+001
...Program finished with exit code 0
```

Code in C++ programming languages:

```
main.cpp Run
2 #include<math.h>
3 using namespace std;
4
5 int main()
6 {int x;
7 double S;
8 cout<<"x="; cin>>x;
9 if(x<0)
10 S=x*x+sin(x/(x*x-1))+2;
11 else if(x<=3)
12 S=x*x*x+log(abs(x/(x*x+x+1)-2));
13 else S=x*x*x*x+cos(x/2);
14 cout<<"S=" <<S<< endl ;
15 return 0;
16 }
```

Program result:

```
/tmp/S5wZAu37Z1.o
x=4
S=255.584
```

Code in C# programming languages:

```
Main.cs
1
2
3 using System;
4
5 public class HelloWorld
6 {
7     public static void Main(string[] args)
8     {
9         double x,s;
10        Console.Write("x=");
11        x=double.Parse(Console.ReadLine());
12        if(x<0)
13        { s=x*x-Math.Sin(x/(x*x-1))-2;}
14        else
15        if(x<=3)
16        { s=x*x*x-Math.Log(Math.Abs(x/(x*x-x-1)-2));}
17        else s=x*x*x*x-Math.Cos(x/2);
18        Console.WriteLine("s="+s);
19    }
20 }
```

Program result:

```
/tmp/S5WZAu37Z1.o
x=4
S=255.584
```

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