Computer Network Assignment 1

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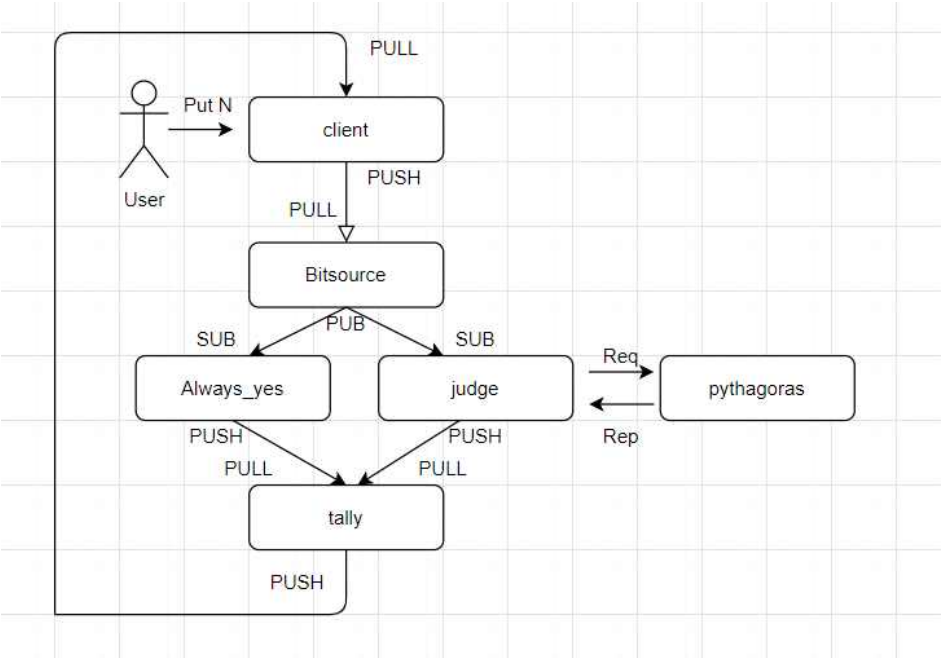
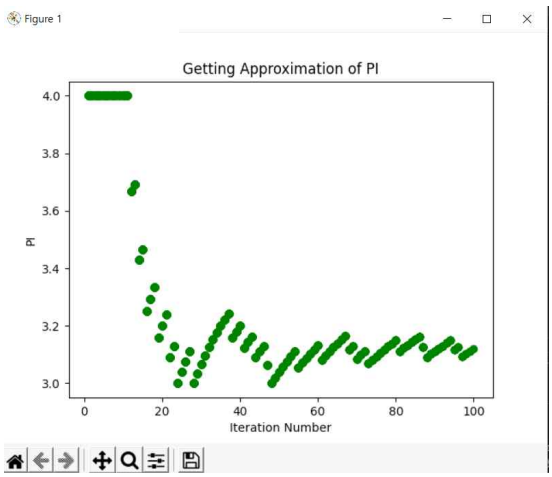
1. Logical View



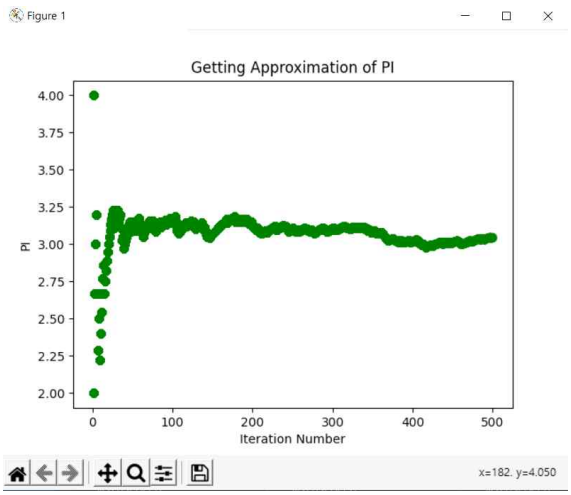
User Sends Number to client that means the Number of iteration which will be done in Program. Each of iteration takes work that Getting estimated PI-value.
The socket types for communication between "client-bitsource" and “client-tally” are both PUSH-PULL types.

The Reason why I choose PUSH-PULL is that client does not needs to work Two-way communication with tally, and with Bitsource.
Tally just PUSH the data to Client and Client just PUSH the data to BitSource.
They are such a Circle-shape structure.
Publisher-Subscriber type is for multi-cast network and Request-Reply type is for Two-way communication.
So PUSH-PULL type is suitable for this model.

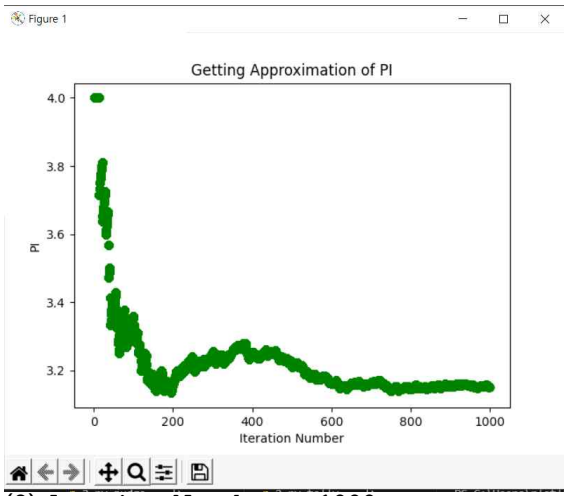
2.Test Case



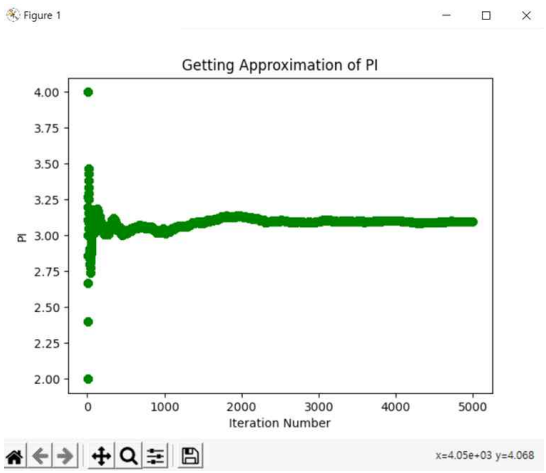
(1) Iteration Number =100



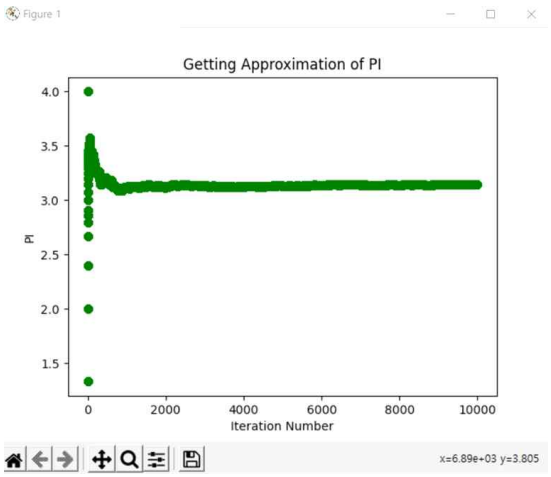
(2) Iteration Number =500



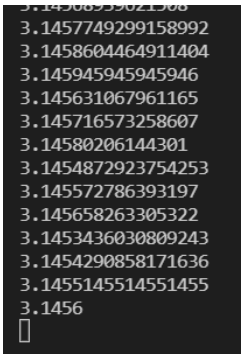
(3) Iteration Number = 1000



(4) Iteration Number = 5000



(5)Iteration Number = 10000



10000^{th} value = 3.1455145514551455≒3.1456

3. Exception Handling

I think there can be error when user put N which is not positive integer. If user put wrong type value like 'P' or '-10', then program raise Exception.

(1) when put wrong type of value.

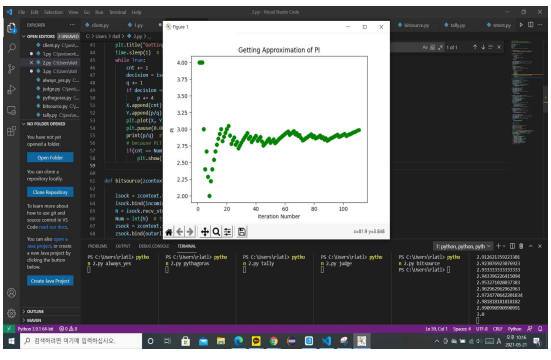
```
PS C:\Users\rlatl> python 2.py client
What is N ? : K
invalid literal for int() with base 10: 'K'
PS C:\Users\rlatl>
```

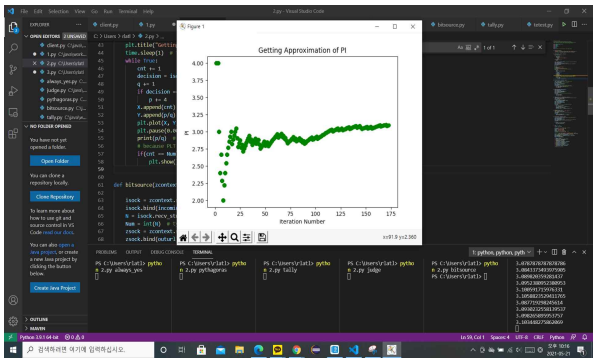
(1) when put negative value.

```
PS C:\Users\rlatl> python 2.py client
What is N ? : -10
Put Positive Integer.
PS C:\Users\rlatl>
```

4.etc..

To make needed python code, Given code which is in github is not suitable because that is multi-threading code. So I run 6 Process to execute program, and to know the changes in pi value in real-time, plt.pause() function is needed.





The screenshots are captured when executing program. user can show the changes in pi value in real-time.