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CECS 100-07

“For” Loop Homework

Tree Diagram

“For” Loop

A number between 1 and 30

See the flowchart

Process

Output

Input

Solution

Flowchart

“Let play a game”

“Please enter a value between 1 and 30”

Get input

Set result=0

Is input<=1 or input >=30?

No

Yes

“Please try again!”

“Your input is invalid.”

Set a=input, b=1

Get input again

Yes

Is a>0&&b<=input?

result =result+(a/b)

a--, b++

No

“The solution of your input is ”+result

“Thank you for playing”

“Good bye”

Pseudocode:

Display “Let play a game”  
Display “Please enter a value between 0 and 30”

Get input

Set result=0

For (;input<=1 ||input>=30;input=keyboard.nextDouble())

Display “Your input is invalid.”

Display “Please try again!”

For (**double** a=input, b=1; a>0&&b<=input; a--,b++)

result=result+(a/b)

Display “The solution of your input is ” +result

Display “Thank you for playing.”

Display “Good bye.”

Java code:

**import** java.util.Scanner;//import scanner

**public** **class** For\_Loop {

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\* Class: CECS 100-07

\* Project: Use input to solve a series of fractions

\*/

**public** **static** **void** main(String[] args) {

// **TODO** Auto-generated method stub

System.***out***.println("Let play a game!");

//welcome screen

System.***out***.println("Please enter a value between 1 and 30.");

//prompt for input

Scanner keyboard= **new** Scanner(System.***in***);

//set keyboard as input

**double** input=keyboard.nextDouble();

//get input

**double** result=0;

//set result to zero

**for** (;input<=1 ||input>=30;input=keyboard.nextDouble() )

//set a output if user doesn't enter the correct value

{System.***out***.println("Your input is invalid.");

System.***out***.println("Please try again!");

}

**for** (**double** a=input, b=1; a>0&&b<=input;a--,b++)

//set a condition to produces a result

{result=result+(a/b);

//get result

}

System.***out***.println("The solution to your input is "+result);

//output result

System.***out***.println ("Thank you for playing.");

System.***out***.println ("Good bye.");

//good bye

}

}

Example:

Let play a game!

Please enter a value between 1 and 30.

99

Your input is invalid.

Please try again!

-1

Your input is invalid.

Please try again!

14

The solution to your input is 34.77343489843489

Thank you for playing.

Good bye.