Homework 4

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# Homework problem 1

## Requirements

Create a truth table for the possible values of p^q.

## Design

Use multiple print statements to display the header, the booleans being compared, and the results of the comparison.

## Iterative developments steps

1. Create new class
2. Write a print line statement for the header (“p q p^q”)
3. Write print line statements for the Booleans being compared (“false false”), (“false true”), (“true false”), (“true true”).
4. Between the string print lines, write print line statements for the results.

**Tests**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Description of test | input | expected result | actual result | cause |
| method1 normal input | N/A | p q p^q  false false false  false true false  true false false  true true true | p q p^q  false false false  false true false  true false false  true true true | I am a boss |

# Homework problem 2

## Requirements

Create a program that calculates and displays the cube of all the numbers between a pair of input numbers.

## Design

Use a scanner object and a while loop to calculate the cube of numbers between the bounds of the input numbers

## Iterative developments steps

1. Import the java utility Scanner.
2. Create new class
3. Declare variables and display prompts for user.
4. Assign the inputs to declared variables
5. Create a while loop that cubes the first input number, prints the result then repeats for all the integers up until the second input number.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Description of test | input | expected result | actual result | cause |
| method1 normal input | 10  10000 | Cube of 10.0 = 1000.0  Cube of 11.0 = 1331.0  Cube of 12.0 = 1728.0  …  …  Etc. | Cube of 10.0 = 1000.0  Cube of 11.0 = 1331.0  Cube of 12.0 = 1728.0  …  …  Etc. | Good code |

# Homework problem 3

## Requirements

Create a truth table that displays the results of !(p&&).

## Design

Use multiple print statements to display the header, the booleans being compared, and the results of the comparison.

## Iterative developments steps

1. Create new class
2. Write a print line statement for the header (“p q !(p&&q)”)
3. Write print line statements for the Booleans being compared (“false false”), (“false true”), (“true false”), (“true true”).
4. Between the string print lines, write print line statements for the results.

**Tests**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Description of test | input | expected result | actual result | Cause |
| Method1 normal input | N/A | p q !( p&&q)  false false true  false true true  true false true  true true false | p q !( p&&q)  false false true  false true true  true false true  true true false | Correct code |

# References

# Introduction to Programming Using Java by Anthony J. Dos Reis

# Lauren Ernst

# Joe Schmitt

# Marielle Billig