

QUALITIMES

A QUALITY THAT DOES NOT CHANGE WITH TIMES.

Editorial Panel

- Geeta S
- Jyoti R
- Sunmeet S
- Venu M

(Want to be a part of the panel.

Forward your interest to: -

"qualitimes@qualitreeinc.com")

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Editor's Choice...

Mera Bharat - Not - So - Mahaan

Jyoti R

We're here again & we're at it again i.e, on the verge of another Independence Day (65th, if you also stopped counting them long back) & gearing up to celebrate it in gala way, with Prime Minister & the brand new President preparing to mechanically mouth long speeches about India "marching ahead" & its "achievements", TV show crews preparing "Independence Day Special" episodes, designers coming out with "I-Day" merchandise, the hawkers stocking up on the miniature Tricolors & caps which they will try & shove down every car-window at the signals, with a good dose of histrionics thrown in for added effect, common man sharpening their "manjhaas" for the kite flying competitions conducted from their rooftops & so on & so forth but amidst all this hoopla & din, nobody seems to remember the real reason behind the celebrations AND the cause for that reason AND the vision behind that cause. Everybody seems to be doing everything "Independence Day" just so as not be left out & feel like a failure to have missed the "celebrations" bus. The real reason behind the celebrations my friends, is the magic word called "Freedom", the mere utterance of which is so liberating for, more often than not, it is ut-

tered in exultation. AND the "cause" for this "reason" is "Sacrifice" from thousands of martyrs & freedom fighters, some celebrated, some unsung but all sharing the common agenda & passion. AND the "vision" behind the sacrifice was to see a nation free from the constraints & complexes stuffed down its throat by the British, free to be on its own to come into its own & grow & prosper but Alas, we couldn't have been farther from the image envisaged for us as a nation, by our predecessors. Instead of the "Ram Rajya" our krantikaaris so innocently thought would prevail if we were bestowed with freedom, all that prevails in giant measures is Corruption, crime & absolute lawlessness, scams, one after the other, poverty, out of control population & you name it. True, there has been growth, wealth creation, in good measure but the credit goes more to liberalization than any earth-shaking efforts from the govt. or the citizens, which in turn created employment opportunities & improved the overall quality of life for us but we're slaves again, in one way or the other. The multinationals, directly or indirectly, have become indispensable to our economy & existence. We work for foreign companies, wear foreign brands, drive foreign cars, eat at foreign eateries & therein lies our defeat. We might have succeeded in "building a life" where we can afford the said luxuries but we have failed to "build a nation", for, building wealth requires an astute mind, hard-work & some luck but building a nation requires vision, character, integrity, strong value-system, humanity, teamwork & above all, a leader who possess all these characteristics in liberal quantity to convince people to walk alongside him/ her on his/her road to realizing the dream of a "nation". Could it be you? :)

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Has anything to share - We are all ears!!! Please send in your articles to: qualitimes@qualitreeinc.com

Writing Test Cases

Each public method of the Relation class needs to be tested. However, for this example, we will just concentrate on the add() method. What sorts of test cases are likely to find errors in its implementation? The following are just a few example test cases:

- After calling add() for a pair (domainElement, rangeElement) not previously in the Relation, does the size of the Relation increase by one?
- After calling add(), does domainElement appear in the domain and rangeElement appear in the range?
- If we add the same pair a second time, does the size of relation remain the same?
- If we add a pair where the domainElement is already in the domain, but the rangeElement is not in the range, does the size of the domain stay constant? Does the size of the Relation still increase by one? Does the size of the range increase by one?
- Similarly, if we add a pair where the rangeElement is already in the range, but the domainElement is not in the domain, does the size of the range stay constant? Does the size of the Relation still increase by one? Does the size of the domain increase by one?
- If we add a pair (a, b) where each of a and b is already in the Relation domain and range respectively, and the pair itself is new to the Relation, does the size of the Relation increase by one, and are the sizes of the domain and range unchanged?

Test Code Example

Let's focus now on our test class RelationTest which is a test harness component. We know that we will be writing code to create a relation in a known state, many times. So we might as well write a convenience method for this straight away:

```
private Relation<String, String> r() {
    return new Relation<String, String>();
}
```

Convenience methods like this one take a lot of the pain out of writing test. Here is how we might implement the test cases listed above for the add() method. The following is the implementation of our first batch of test cases for the add method.

```
public boolean addTest() {
    //a. After an add() of a pair (domainElement, rangeElement),
    //not previously in the relation, does the size
    //of the relation increase by one?
    Relation<String, String> relation = r();
    assert relation.size() == 0;
    relation.add( "a", "b" );
    assert relation.size() == 1;
    //b. After an add(), does domainElement appear in
the
    //domain, and rangeElement appear in the range?
    relation = r();
    assert !relation.domain().contains( "a" );
    assert !relation.inRange( "b" );
    relation.add( "a", "b" );
    assert relation.domain().contains( "a" );
    assert relation.inRange( "b" );
    //c. If we add the same pair in a second time,
//does the size remain the same?
    relation = r();
    relation.add( "a", "b" );
    assert relation.size() == 1;
    relation.add( "a", "b" );
    assert relation.size() == 1;
    //d. If we add in a pair where the domainElement
//is already in the domain, but the rangeElement
//is not in the range, does the size of the
//domain stay constant?
    relation = r();
    relation.add( "a", "b" );
    assert relation.domain().size() == 1;
    assert relation.size() == 1;
    relation.add( "x", "b" );
    assert relation.domain().size() == 2;
    assert relation.size() == 2;
    assert relation.range().size() == 1;
    //f. If we add a pair (a, b) where each of a and b are
//already in the relation domain and range respec-
tively,
//but the pair itself is new to the relation,
//does the size of the relation increase by one,
//and are the sizes of the domain and range un-
changed?
    relation = r();
    relation.add( "a", "b" );
    relation.add( "c", "d" );
    assert relation.domain().size() == 2;
    assert relation.size() == 2;
    assert relation.range().size() == 2;
    relation.add( "a", "d" );
    assert relation.size() == 3;
    assert relation.domain().size() == 2;
    assert relation.range().size() == 2;
    relation.add( "c", "b" );
    assert relation.size() == 4;
    assert relation.domain().size() == 2;
    assert relation.range().size() == 2;
    return true;
}
```

To be contd..

JUMBLE

IHCNF

○ ○ ○ ○ ○ ○ ○ ○

VIENA

○ ○ ○ ○ ○ ○ ○ ○

UTVAL

○ ○ ○ ○ ○ ○ ○ ○

AITG

○ ○ ○ ○ ○ ○ ○ ○

TFISF

○ ○ ○ ○ ○ ○ ○ ○

Participate and win; the first correct entry wins a gift of \$10.00*.

Send in your completed entries to:
jumble_qualitimes@qualitreeinc.com

Hunger finds no fault with the cooking,



"Birbal ki Khichdi" is now on the menu!

Punches, pulls and bumps!!

- Aug 03 - Anitapriya V.
- Aug 06 - Ravi Raj J.
- Aug 08 - Ishita S.
- Aug 11 - Pritu P.
- Aug 15 - Ramesh N.
- Aug 21 - Sreekanth M.
- Aug 22 - Mandar J.
- Aug 26 - Brinderjit S.
- Aug 28 - Giri Raja M.



Team Patiala had delicious lunch and Ice creams at Jaggi sweets.
(clockwise: Sarabjit K. , Karan Preet S. , Daman Deep Gill. , Sunil G. , Probhjot B. & Gurmeet S.)



Qualifiers offering prayers to Goddess "Lakshmi", the Goddess of Fortune!



Its another day for u. God picked another petals on your flower, wishing your flowers may bloom for year. Qualitimes wishes Siva Prasad a very Happy Birthday.


Smiling and Shining - Team Bangalore



Aug. 2012
Hari Krishna M.



For an outstanding contribution in the Testing & I-Phone App. development as well, Hari Krishna M. was chosen as the Star of the Month for August, 2012.



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- Krishna Mane augments the marketing wagon in Canada. Qualitimes wishes him a great and a successful career.
- Team Bangalore forays into using Open Source Tools for Test Automation. Expertise build on Selenium, SOAP UI & Load UI and monkeytalk.
- Qualitree strengthens its relationship by extending an existing contract for providing software test automation services with a scientific product based company based out of Vancouver in the province of British Columbia in Canada.
- By providing exceptional software testing and quality assurance services to one of the leading banks in the United States, Qualitree finally has been promoted as partners to provide Quality Assurance services to the bank. Earlier, before being promoted as partners, Qualitree was one of the preferred vendors for supplying the Quality Assurance services.
- Thick talks in progress between Qualitree and a software services company (providing software consultancy services) to provide Quality Assurance services to its clients across the globe.



- To an optimist, the glass is half full.
- To a pessimist, the glass is half empty.
- To a good tester, the glass is twice as big as it needs to be.

Testing Definition: To tell somebody that he is wrong is called criticism. To do so officially is called testing.

Answers to last month's Jumble:

- ACUTE
- FLEET
- SLOTH
- GAIT
- JAUNT

Last Month's Winner:
Devraj K.


Other correct entries:
Brajesh M, Bharath S, Srikanth K, Rakesh B, Satyajit S, Swetha S and Jaspreet Gurm

Answers to last month's Word Puzzle:

- WIDOW
- FLUFF
- PLUMP
- TROUT
- TENANT

Last month's winner:
Devraj K.

Other correct entries:
Brajesh M, Bharath S, Srikanth K, Satyajit S, Swetha S and Rakesh B and Sarabjit K.



In the following word puzzles, a word starts and ends with the same letter. Figure out the words and win*

1	_ I S C O R _	
2	_ V I N C _	
3	_ R I _	
4	_ R E A _	
5	_ N A C _	

* Send in your entries to "qualitimes@qualitreeinc.com" with the subject "Word Puzzle"
The first correct entry wins a gift of \$10.00