LINE / LINE Fukuoka Corporation

Pre-Test

\*Please fill in your name and date before start

|  |  |
| --- | --- |
| First Names: | Balakrishna |
| Last Name: | Tammisetty |
| Date: |  |

Thank you for applying to LINE/LINE Fukuoka Co., Ltd.  
When considering applicants for engineering positions, we strive to place an emphasis on their true technical skill, which cannot be determined by their educational background or previous work experience alone. That is why we ask that you take this pre-test after confirming the following notices.

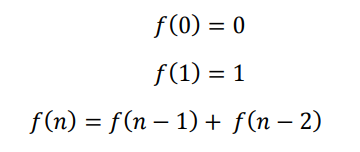
[1] Please answer directly in the body of this file.   
[2] Please avoid using the Internet, literary references, etc. to answer the questions.  
[3] Please do not disclose the content of this test.

(Note that uploading the content of this test, or disclosing said content by any other means in any form, may result in legal action being taken against you.)

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Q1

Where n is a positive integer, the function Picture 3satisfies the following.



1. Please create a program to findPicture 3. (You can write in any language that you are good at.)

import java.math.BigDecimal;

public class FunctionN {

/\*\*

\* @param arg

\*/

public static void main (String arg[]) {

System.out.println(fn(8181));

}

private static BigDecimal fn(int n) {

if(n <= 1) {

return new BigDecimal(n);

}

BigDecimal fn = new BigDecimal(1);

BigDecimal prevFn = new BigDecimal(1);

for(int i=2; i<n; i++) {

BigDecimal temp = fn;

fn = prevFn.add(fn);

prevFn = temp;

}

return fn;

}

}

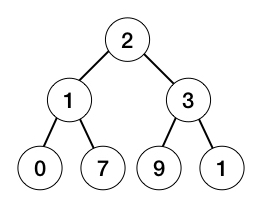
1. What is the result of Picture 4.

239001090710360059034248200673803309562195124933438825088385870209105768309267224930066773271004303009695857056812050426322722227488483596969330539198412751609689113829755775066752844437629935556689908621747058520170917953833076673228939285877150494526386620300621280749499924952199516712960736433814553231958282333619656314497995824452475174641352224677997408976231194557854106641619031011172157654286916061043356523159334857136487352779804235483277506977454306460042287968212874761824582897118739286429568840003151050106146828835563160817912048376040050029809912293013734791567749471727392937824065261113177259783202662957881148637632338195187490758787735996699022778723575367214258563034452504094360966531897568256418608645465915444745840473934322871426418866598642747848660145342643755366760919516317387477526541252807114293921792114970905075434450564838742451198888345673434700068960962172644679947794329807611771708249033661865248799511661306285140477533559743999464574932871122125066107105911374614630965320293086278694399936369060752395531165804412176996135810584035128447884802662630006754418904791563798389799016017336123177492245220148295507234160487497059285034564989541608419857951981398972834439558266427410836592525389894745439937417033358839088886819050208294080514041113275997534122520735761635971975621605403703050984275628628811283403426936742851082726036123336764016240562071825096262121405587203818756266733130406345518134166312225673215071500009165695469591411166981267241101113735558997083171850461315680070428706983814819412637005375477590183910679020180492817106735246177201410250973608332090435177967936901320342366183865669056306257798108871942566285065496557591483743343454453933506

Q2

Please implement a program that lists the nodes of a random binary tree by nodes at the same depth.

For example, the following tree:



would output

|  |
| --- |
| (2)  (1), (3)  (0), (7), (9), (1) |

public class BinaryTreeDisplay {

Node node;

BinaryTreeDisplay()

{

node = null;

}

public static void main(String[] args)

{

BinaryTreeDisplay tree = new BinaryTreeDisplay();

tree.buildBinaryTree(tree);

tree.displayLevelOrder(tree.node);

}

/\*\*

\* Method builds the binary tree

\* @param tree

\*/

public void buildBinaryTree(BinaryTreeDisplay tree) {

tree.node = new Node(2);

tree.node.left = new Node(1);

tree.node.right = new Node(3);

tree.node.left.left = new Node(0);

tree.node.left.right = new Node(7);

tree.node.right.left = new Node(9);

tree.node.right.right = new Node(1);

}

/\*\*

\* method returns the depth of binary tree

\* @param root

\* @return

\*/

public int checkDepth(Node root) {

if (root == null) {

return 0;

}

else

{

int lheight = checkDepth(root.left);

int rheight = checkDepth(root.right);

if (lheight > rheight) {

return(lheight+1);

}

else {

return(rheight+1);

}

}

}

/\*\*

\*

\* @param node

\*/

public void displayLevelOrder(Node node )

{

int h = checkDepth(node);

int i;

for (i=1; i<=h; i++) {

displayGivenLevel(node, i);

System.out.println();

}

}

/\*\*

\*

\* @param root

\* @param level

\*/

public void displayGivenLevel (Node node ,int level)

{

if (node == null) {

return;

}

if (level == 1) {

System.out.print("("+node.value + ")");

}

else if (level > 1) {

displayGivenLevel(node.left, level-1);

System.out.print(",");

displayGivenLevel(node.right, level-1);

}

}

}

public class Node

{

int value;

Node left, right;

public Node(int value)

{

this.value = value;

this.left = this.right = null;

}

}

Q3

(1) Imagine you are playing a board game. You roll a 6-faced dice and move forward the same number of spaces that you rolled. If the finishing point is “n” spaces away from the starting point, please implement a program that calculates how many possible ways there are to arrive exactly at the finishing point.

public class DiceSolution {

public static void main(String arg[]) {

System.out.println(getCombination(610));

}

private static int getCombination(int sum) {

int [] intArray = new int[sum+1];

intArray[0]=1;

for (int i=1; i<7; i++) {

for (int j=i; j<=sum; j++) {

intArray[j]+= intArray[j-i];

}

}

return intArray[sum];

}

}

(2) If n=610, how many possible ways are there to arrive exactly at the finishing point?

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Q4

Please tell us about the technologies you frequently use.

|  |  |
| --- | --- |
| Levels of competency | Name of programming Language(Year of experience)  Example: Java (3years) |
| Most Proficient  (Please give one answer only) | Java (12 Years) Spring(7 years) Cloud (2 Years), SpringBoot(3 years) SpringCloud(2years) Microservice(3 Years) |
| Familiar with |  |
| Minimal experience |  |

|  |  |
| --- | --- |
| Question | Answer |
| On which platform do you have the most development experience (e.g. iOS apps, Android apps, Linux server, Windows server, etc.)? | Linux |
| On which platforms are you interested in developing (regardless of experience) (e.g. iOS apps, Android apps, Linux server, Windows server, etc.)? | IOS App, Android App & Linux |

|  |  |  |
| --- | --- | --- |
| Category | Example | Your Experience |
| DI Framework | CDI, Spring Framework, Guice, Dagger | 7 |
| MVC | Spring MVC, Struts 2, Play, Grails | 5 |
| ORM | MyBatis, Hibernate | 4 |
| Testing | JUnit, TestNG, Cucumber, Selenium, WebDriver | 5 |
| IDE/Editor | Eclipse, IntelliJ IDEA, Android Studio, Xcode, Visual Studio, NetBeans, Vim, Emacs, SublimeText, Atom | 12 |
| UML/Diagram | Enterprise Architect, Rational XDE, LucidChart | 2 |
| SCM | CVS, Subversion, Git, Mercurial,  Perforce, Visual SourceSafe | 8 |
| Build/Dependency Management | Ant, Maven, Gradle, Ivy, sbt | 9 |
| CI/Quality | Jenkins, Bamboo, Sonar, CircleCI, TravisCI | 4 |
| Java Profilers | VisualVM, Eclipse TPTP, YourKit, JProfiler | 1 |
| Web Applications | JMeter, Grinder, Gatling | 1 |
| Performance Profilers |
| Issue Trackers | JIRA, Redmine, Bugzilla, Trello | 5 |
| Agile Processes | Scrum, XP, Kanban | 3 |
| Social Coding | GitHub, Bitbucket, Stash, Crucible/FishEye | 2 |
| Code Review |

Q5

Please answer the questions below.

|  |  |
| --- | --- |
| Question | Answer |
| What specifically do you want to achieve at LINE Group? |  |
| What kind of Web or smartphone applications are you interested in?  \* Please name at least one app that you always use, and at least one that you have found out about within the last year. |  |
| Please give some specific examples of how you have made use of, or would like to make use of recent technological developments. (Within 3 examples) |  |
| 1. What is the most technically difficult or interesting thing you have experienced in development or programming so far? 2. Why did you find it difficult / interesting? 3. What was your solution, and how did you implement it? (Please answer in as much detail as possible) | 1.    2.  3. |
| Public repository URLs (e.g.: GitHub, Bitbucket, etc.) |  |
| Public social accounts (if applicable; e.g.: Twitter, Facebook, etc.) |  |
| Which 3 technical books or articles have made a big impact on you? |  |

Thank you for your time!