互联网开发工程师技术背景调查

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一 java 语言部分

1，请翻译下面的英文段落

Every thread has a priority. Threads with higher priority are executed in preference to threads with lower priority. Each thread may or may not also be marked as a daemon. When code running in some thread creates a new `Thread` object, the new thread has its priority initially set equal to the priority of the creating thread, and is a daemon thread if and only if the creating thread is a daemon.When a Java Virtual Machine starts up, there is usually a single non-daemon thread (which typically calls the method named `main` of some designated class).

2，请输出以下两段程序结果。

程序 A:

```
//父类
class Parent {
    int i = 1;
    Parent() {
        System.out.println(i);
        int x = getValue();
        System.out.println(x);
    }
    {i = 2;}
    protected int getValue() {return i;}
}
//子类
class Son extends Parent {
    int j = 1;
    Son() { j = 2;}
    {j = 3;}
    @Override
    protected int getValue() {return j;}
}
public class Test {
    public static void main(String... args) {
        Son son = new Son();
        System.out.println(son.getValue());
    }
}
```

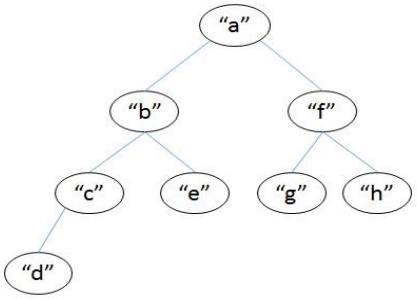
程序 A 输出结果：

程序 B:

```
public class MagimaTest {
    public static void main(String[] args) {
        magimaFunction();
    }
    static MagimaTest st = new MagimaTest();
    static {
        System.out.println("1");
    }
    {
        System.out.println("2");
    }
    MagimaTest() {
        System.out.println("3");
        System.out.println("a=" + a + ",b=" + b);
    }
    public static void magimaFunction() {
        System.out.println("4");
    }
    int a = 110;
    static int b = 112;
}
```

程序 B 输出结果：

3 请用 java 代码实现一个树的“前序”遍历，如（图 a），最终遍历打印出如（图 b）的字符串：



（图a）

控制台上的打印结果：

```
_> java Tree

abcdefgh

_>
```

（图b）

```
public class Node {
    public Node parent;
    public Node left;
    public Node right;
    public String data;     // “a”, “b”, “c”, …等各个节点的各自具体的值。
}
public interface INodeHandler {
    public void handle(Node n);
}
public class NodePrinter    implements INodeHandler{
    public void handle(Node n){
        System.out.print(n.data);    // 在控制台上打印出节点，无回车换行。
    }
}
public class Tree {
    private Node root;
        public Tree (Node root){
        this.root = root;
    }
    public void travel (INodeHandler    nh)
    {
        this.travel(nh, root);
    }
    private void travel(INodeHandler nh,    Node node){
        / /你的前序遍历代码









    }
} // public class Tree
```

4，有 n 个人围成一圈，顺序排号。从第一个人开始报数（从 1 到 3 报数），凡报到 3 的人退出圈子，问最后留下的是原来第几号的那位。用 java 代码实现。

5,一个 5L 的杯子和 6L 的杯子怎么量出 3L 的水？

6,编写几条 sql 实现查询用户的微信模板消息可达状态。

非常量表：

```
create table ThirdServiceAccount
(
ThirdServiceAccountID bigint not null auto_increment,
RegisterUserID bigint,
ThirdServiceProviderID bigint,
AcountTypeID bigint,
ThirdAccountIdentity varchar(1024),
AccountInfo varchar(4096),
CreatedDatetime bigint,
LastUpdatedDatetime bigint,
isDeleted bool,
DeletedDatetime bigint,
primary key (ThirdServiceAccountID)
);

create table ThirdServiceOauthInfo
(
ThirdServiceOauthInfoID bigint not null auto_increment,
ThirdServiceAccountID bigint,
```

```
ThirdServiceProviderID bigint,
ThirdAppInfoID bigint,
AppID varchar(1024),
AccessToken varchar(1024),
RefreshToken varchar(1024),
CreatedDatetime bigint,
LastRefreshDatetime bigint,
AccessTokenExpireInSeconds bigint,
Note varchar(2048),
SubscribingStatusID bigint,//关注状态
LastSubscribingStatusModifedDatetime bigint,
BiboAccessToken varchar(1024),
ExtInfo varchar(4096),
primary key (ThirdServiceOauthInfoID)
);

create table ThirdAppInfo
(
ThirdAppInfoID bigint not null auto_increment,
ThirdServiceProviderID bigint,
OrgID bigint,
isEnable bool,
AppID varchar(256),
AppSecret varchar(256),
AppName varchar(128),
Priority int,
AccessToken varchar(1024),
AccessTokenExpireInSeconds bigint,
LastRefreshDatetime bigint,
ExtInfo varchar(2048),
CreatedDatetime bigint,
primary key (ThirdAppInfoID)
);

create table ThirdAppXCapability
(
ThirdAppXCapabilityID bigint not null auto_increment,
AppInfoID bigint,
CapabilityID bigint,
primary key (ThirdAppXCapabilityID)
);
```

常量表及数据：

```
create table UserThirdSubscribingStatus
(
UserThirdSubscribingStatusID bigint not null auto_increment,
```

```
Name varchar(256),
primary key (UserThirdSubscribingStatusID)
);
+-----------------------------+-----------------------------------------+
| UserThirdSubscribingStatusID | Name                                    |
+-----------------------------+-----------------------------------------+
|                            1 | User.Third.Subscribing.Status.Unknow    |
|                            2 | User.Third.Subscribing.Status.Subscribing |//关注
|                            3 | User.Third.Subscribing.Status.Unsubscribing |//未关注
+-----------------------------+-----------------------------------------+

create table ThirdServiceAccountType
(
ThirdServiceAccountTypeID bigint not null auto_increment,
ServiceProviderID bigint,
Name varchar(256),
primary key (ThirdServiceAccountTypeID)
);
+--------------------------+-----------------------------------------+
| ThirdServiceAccountTypeID | Name                                   |
+--------------------------+-----------------------------------------+
|                         1 | ThirdService.Account.Type.Tencent.WeiXin |
|                         2 | ThirdService.Account.Type.Tencent.QQ    |
|                         3 | ThirdService.Account.Type.Sina.Weibo    |
|                         4 | ThirdService.Account.Type.Email         |
|                         5 | ThirdService.Account.Type.Mobile        |
+--------------------------+-----------------------------------------+

create table ThirdServiceProvider
(
ThirdServiceProviderID bigint not null auto_increment,
SPName varchar(256),
SPInfo varchar(2048),
primary key (ThirdServiceProviderID)
);
+-----------------------+-----------------------------------------+--------+
| ThirdServiceProviderID | SPName                                 | SPInfo |
+-----------------------+-----------------------------------------+--------+
|                      1 | ThirdServiceProvider.Tencent.Division.WeiXin | NULL |
|                      2 | ThirdServiceProvider.Tencent.Division.QQ | NULL |
|                      3 | ThirdServiceProvider.Sina.Division.Weibo | NULL |
+-----------------------+-----------------------------------------+--------+

create table ThirdAppCapability
(
ThirdAppCapabilityID bigint not null auto_increment,
```

Name varchar(256),
primary key (ThirdAppCapabilityID)
);
+----------+----------+
| ThirdAppCapabilityID | Name |
+----------+----------+
| 1 | ThirdApp.Capability.Unknown |
| 2 | ThirdApp.Capability.SendTransactionalMessage |//代表有发送微信模板消息的能力
+----------+----------+

用户的微信模板消息是否可达几个维度：
1.有帐号；
2.有通过公众号授权及关注（订阅）公众号；
3.公众号本身可用以及有发微信模板消息的能力；
满足以上三个条件则微信模板消息可达用户，否则不可达。
给定 RegisterUserID 为 123，编写 sql 实现查询用户的微信模板消息可达状态。（每条 sql 语句关联表的数量不能超过两张）。