《天气信息统计》

**三人行项目组**

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# 0. 版本记录

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **序号** | **版本号** | **生成时间** | **主 要 修 改 记 录** | **作者** | **备注** |
| 0 | 1.0.0 | 2013-9-22 | 初始化版本 | 吴礼恩 |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

# 1 天气数据接口

## 1.1 接口对比

获取天气预报数据可以采用两种方式，一是利用国家气象局提供的api接口，而是利用网络爬虫获取别人天气页面上的数据。优缺点对比如下：

|  |  |  |
| --- | --- | --- |
|  | 国家气象局api | 网络爬虫 |
| 信息量 | 满足一般要求 | 大 |
| 获取速度 | 快 | 一般 |
| 实现难度 | 简单 | 一般 |

# 2 接口数据

## 2.1 国家气象局数据

国家气象局接口有3个：

1.实时天气：

http://www.weather.com.cn/data/sk/101010100.html

返回数据：

{"weatherinfo":{"city":"武汉","cityid":"101200101","temp":"29","WD":"北 风","WS":"3 级","SD":"69%","WSE":"3","time":"18:00","isRadar":"1","Radar":"JC\_RADAR\_AZ9270\_JB"}}

2.http://www.weather.com.cn/data/cityinfo/101010100.html

返回数据：

{"weatherinfo":{"city":"武 汉","cityid":"101200101","temp1":"23℃","temp2":"28℃","weather":"多云转阵 雨","img1":"n1.gif","img2":"d3.gif","ptime":"18:00"}}

3.http://m.weather.com.cn/data/101010100.html

其中第三个接口返回的数据最全面，故下面的分析都采用第三个接口提供的数据。

对于第三个接口，返回信息比较全面，也是以json格式提供，格式如下  
{"weatherinfo": {  
//基本信息;  
"city":"北京","city\_en":"beijing",  
"date\_y":"2012年2月16日", "date":"", "week":"星期四", "fchh":"11", "cityid":"101010100",  
//摄氏温度  
"temp1":"2℃~-7℃",  
"temp2":"1℃~-7℃",  
"temp3":"4℃~-7℃",  
"temp4":"7℃~-5℃",  
"temp5":"5℃~-3℃",  
"temp6":"5℃~-2℃",  
//华氏温度;  
"tempF1":"35.6℉~19.4℉",  
"tempF2":"33.8℉~19.4℉",  
"tempF3":"39.2℉~19.4℉",  
"tempF4":"44.6℉~23℉",  
"tempF5":"41℉~26.6℉",  
"tempF6":"41℉~28.4℉",  
//天气描述;  
"weather1":"晴",  
"weather2":"晴",  
"weather3":"晴",  
"weather4":"晴转多云",  
"weather5":"多云",  
"weather6":"多云转阴",  
//天气描述图片序号  
"img1":"0",  
"img2":"99",  
"img3":"0",  
"img4":"99",  
"img5":"0",  
"img6":"99",  
"img7":"0",  
"img8":"1",  
"img9":"1",  
"img10":"99",  
"img11":"1",  
"img12":"2",  
"img\_single":"0",  
//图片名称;  
"img\_title1":"晴",  
"img\_title2":"晴",  
"img\_title3":"晴",  
"img\_title4":"晴",  
"img\_title5":"晴",  
"img\_title6":"晴",  
"img\_title7":"晴",  
"img\_title8":"多云",  
"img\_title9":"多云",  
"img\_title10":"多云",  
"img\_title11":"多云",  
"img\_title12":"阴",  
"img\_title\_single":"晴",  
//风速描述  
"wind1":"北风3-4级转微风",  
"wind2":"微风",  
"wind3":"微风",  
"wind4":"微风",  
"wind5":"微风",  
"wind6":"微风",  
//风速级别描述  
"fx1":"北风",  
"fx2":"微风",  
"fl1":"3-4级转小于3级",  
"fl2":"小于3级",  
"fl3":"小于3级",  
"fl4":"小于3级",  
"fl5":"小于3级",  
"fl6":"小于3级",  
//今天穿衣指数;  
"index":"冷",  
"index\_d":"天气冷，建议着棉衣、皮夹克加羊毛衫等冬季服装。年老体弱者宜着厚棉衣或冬大衣。",  
//48小时穿衣指数  
"index48":"冷",  
"index48\_d":"天气冷，建议着棉衣、皮夹克加羊毛衫等冬季服装。年老体弱者宜着厚棉衣或冬大衣。",  
//紫外线及48小时紫外线  
"index\_uv":"弱",  
"index48\_uv":"弱",  
//洗车  
"index\_xc":"适宜",  
//旅游  
"index\_tr":"一般",  
//舒适指数  
"index\_co":"较不舒适",

"st1":"1",  
"st2":"-8",  
"st3":"2",  
"st4":"-4",  
"st5":"5",  
"st6":"-5",  
//晨练  
"index\_cl":"较不宜",  
//晾晒  
"index\_ls":"基本适宜",  
//过敏  
"index\_ag":"极不易发"}}

## 2.2 数据库表格

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 基本信息 | "city":"北京" | "city\_en":"beijing" | "date\_y":"2012年2月16日" | "date":"" | "week":"星期四" | "fchh":"11" | "cityid":"101010100" |  |
| 摄氏温度 | "temp1":"2℃~-7℃" | "temp2":"1℃~-7℃" | "temp3":"4℃~-7℃" | "temp4":"7℃~-5℃" | "temp5":"5℃~-3℃" | "temp6":"5℃~-2℃" |  |  |
| 华氏温度 | "tempF1":"35.6℉~19.4℉" | "tempF2":"33.8℉~19.4℉" | "tempF3":"39.2℉~19.4℉" | "tempF4":"44.6℉~23℉" | "tempF5":"41℉~26.6℉" | "tempF6":"41℉~28.4℉" |  |  |
| 天气描述 | "weather1":"晴" | "weather2":"晴" | "weather3":"晴" | "weather4":"晴转多云" | "weather5":"多云" | "weather6":"多云转阴" |  |  |
| 天气描述图片序号 | "img1":"0" |  |  |  |  |  |  |  |
| 图片名称 | "img\_title1":"晴" |  |  |  |  |  |  |  |
| 风速描述 | "wind1":"北风3-4级转微风" | "wind2":"微风" | "wind3":"微风" | "wind4":"微风" | "wind5":"微风" | "wind6":"微风" |  |  |
| 风速级别描述 | "fx1":"北风" | "fx2":"微风" | "fl1":"3-4级转小于3级" | "fl2":"小于3级" | "fl3":"小于3级" | "fl4":"小于3级" | "fl5":"小于3级" | "fl6":"小于3级" |
| 今天穿衣指数 | "index":"冷" | "index\_d":"天气冷，建议着棉衣、皮夹克加羊毛衫等冬季服装。年老体弱者宜着厚棉衣或冬大衣。" | | | | | | |
| 48小时穿衣指数 | "index48":"冷" | "index48\_d":"天气冷，建议着棉衣、皮夹克加羊毛衫等冬季服装。年老体弱者宜着厚棉衣或冬大衣。" | | | | | | |
| 紫外线及48小时紫外线 | "index\_uv":"弱" | "index48\_uv":"弱" |  |  |  |  |  |  |
| 洗车 | "index\_xc":"适宜" | | | | | | | |
| 旅游 | "index\_tr":"一般" | | | | | | | |
| 舒适指数 | "index\_co":"较不舒适" | | | | | | | |
| 晨练 | "index\_cl":"较不宜" | | | | | | | |
| 晾晒 | "index\_ls":"基本适宜" | | | | | | | |
| 过敏 | "index\_ag":"极不易发" | | | | | | | |

# 3 枚举值定义

## 3.1 天气

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 晴 | 多云 | 阴 | 阵雨 | 雷阵雨 | 雷阵雨伴有冰雹 | 雨夹雪 | 小雨 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 中雨 | 大雨 | 暴雨 | 大暴雨 | 特大暴雨 | 阵雪 | 小雪 | 中雪 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 大雪 | 暴雪 | 雾 | 冻雨 | 沙尘暴 | 小雨转中雨 | 中雨转大雨 | 大雨转暴雨 |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
| 暴雨转大暴雨 | 大暴雨转特大暴雨 |  | 小雪转中雪 | 中雪转大雪 | 大雪转暴雪 | 浮尘 | 扬沙 |
| 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 |
| 强沙尘暴 | 霾 | 晴转多云 | 多云转阴 | 阴转阵雨 | 阴转小雨 |  |  |

## 3.2 穿衣指数

|  |  |  |
| --- | --- | --- |
| 1 | 炎热 | 天气炎热，建议着短衫、短裙、短裤、薄型T恤衫、敞领短袖棉衫等清凉夏季服装。 |
| 2 | 热 | 天气较热，建议着短裙、短裤、短套装、T恤等夏季服装。年老体弱者宜着长袖衬衫和单裤。 |
| 3 | 暖 | 建议着长袖衬衫加单裤等春秋过渡装。年老体弱者宜着针织长袖衬衫、马甲和长裤。 |
| 4 | 舒适 | 建议着薄型套装或牛仔衫裤等春秋过渡装。年老体弱者宜着套装、夹克衫等。 |
| 5 | 温凉 | 建议着夹衣或西服套装加薄羊毛衫等春秋服装。年老体弱者宜着夹衣或风衣加羊毛衫。 |
| 6 | 气温较低 | 天气凉，建议着厚外套加毛衣等春秋服装。年老体弱者宜着大衣、呢外套加羊毛衫。 |
| 7 | 冷 | 天气冷，建议着棉衣、皮夹克加羊毛衫等冬季服装。年老体弱者宜着厚棉衣或冬大衣。 |
| 8 | 温度极低 | 天气寒冷，建议着厚羽绒服、毛皮大衣加厚毛衣等隆冬服装。年老体弱者尤其要注意保暖防冻。 |

## 3.3 紫外线指数

|  |  |  |
| --- | --- | --- |
| 1 | 最弱 | 安全 可以不采取措施 |
| 2 | 弱 | 正常 外出戴防护帽或太阳镜 |
| 3 | 中等 | 注意 除戴防护帽和太阳镜外涂擦防晒霜(防晒霜SPF指数应不低于15) |
| 4 | 强 | 较强 在上午十点至下午四点时段避免外出活动，外出时应尽可能在遮荫处 |
| 5 | 最强 | 有害 尽量不外出，必须外出时，要采取一定的防护措施 |

## 3.4 洗车指数

|  |  |
| --- | --- |
| 1 | 适宜 |
| 2 | 较适宜 |
| 3 | 较不宜 |
| 4 | 不宜 |

## 3.5 旅游指数

|  |  |
| --- | --- |
| 1 | 适宜 |
| 2 | 较适宜 |
| 3 | 一般 |
| 4 | 较不宜 |

## 3.6 舒适指数

|  |  |
| --- | --- |
| 0 | 舒适 |
| 1 | 较为舒适 |
| 2 | 不舒适 |
| 3 | 很不舒适 |
| 4 | 极不适应 |

## 3.7 晨练指数

|  |  |
| --- | --- |
| 1 | 非常适宜 |
| 2 | 适宜 |
| 3 | 较适宜 |
| 4 | 较不宜 |
| 5 | 不宜 |

## 3.8 晾晒指数

|  |  |
| --- | --- |
| 1 | 非常适宜 |
| 2 | 适宜 |
| 3 | 较适宜 |
| 4 | 不太适宜 |
| 5 | 不适宜 |

## 3.9 过敏指数

|  |  |
| --- | --- |
| 1 | 极不易发 |
| 2 | 不易发 |
| 3 | 较不易发 |
| 4 | 易发 |
| 5 | 极易发 |