

## 1.

在旧版本中直接查找函数名：

得到对应 java 代码：

```
@Override // jp.naver.line.android.urlscheme.f
public final g a(Context context, Uri uri, i iVar) {
    String str;
    List<String> pathSegments = uri.getPathSegments();
    String str2 = pathSegments.get(0);
    if (pathSegments.size() == 2) {
        str = pathSegments.get(1);
    } else {
        str =TextUtils.isEmpty(uri.getQuery()) ? "" : uri.getQuery();
    }
    String uri2 = uri.toString();
    new a(context, str2, str, uri2.substring(uri2.indexOf("oaMessage") + 9 + 1)).executeOnExecutor(ae.b(), new Void[0]);
    return g.f98715a;
}
```

发现该函数用了字符串"oaMessage"，在新版本中直接查找该字符串，找到函数。

```
@Override // j.a.a.a.s2.f
public j.a.a.a.s2.g a(Context context, Uri uri, i iVar) {
    String str;
    List<String> pathSegments = uri.getPathSegments();
    String str2 = pathSegments.get(0);
    if (pathSegments.size() == 2) {
        str = pathSegments.get(1);
    } else {
        str =TextUtils.isEmpty(uri.getQuery()) ? "" : uri.getQuery();
    }
    String uri2 = uri.toString();
    new a(context, str2, str, uri2.substring(uri2.indexOf("oaMessage") + 9 + 1)).executeOnExecutor(t.a, new Void[0]);
    return j.a.a.a.s2.g.a;
}
```

Smali:

a(Landroid/content/Context;Landroid/net/Uri;Lj/a/a/a/s2/i;)Lj/a/a/a/s2/g;

j.a.a.a.s2.m.y.a(android.content.Context,android.net.Uri,j.a.a.a.s2.i)

## 2.

原函数：

```
public static CharSequence a(String str, List<aa> list, com.linecorp.line.timeline.view.w wVar, y.a aVar) {
    int i2;
    if (list == null || TextUtils.isEmpty(str)) {
        return str;
    }
    SpannableStringBuilder spannableStringBuilder = new SpannableStringBuilder(str);
    for (aa aaVar : list) {
        if (spannableStringBuilder.length() >= aaVar.f38118b && spannableStringBuilder.length() >= aaVar.f38117a) {
            if (aaVar.f38119c == null || TextUtils.isEmpty(aaVar.f38119c.f38135c)) {
                i2 = 0;
            } else {
                spannableStringBuilder.replace(aaVar.f38117a, aaVar.f38118b, (CharSequence) aaVar.f38119c.f38135c.replace(" ", " "));
                i2 = aaVar.f38119c.f38135c.length() - (aaVar.f38118b - aaVar.f38117a);
            }
            if (wVar == null) {
                if (aaVar.f38120d) {
                    wVar = com.linecorp.line.timeline.view.w.f40429b;
                } else {
                    wVar = com.linecorp.line.timeline.view.w.f40428a;
                }
            }
            spannableStringBuilder.setSpan(new y(aaVar, wVar, new b((byte) 0), aVar), aaVar.f38117a, aaVar.f38118b + i2, 33);
        }
    }
    return spannableStringBuilder;
}
```

发现特征字符串：

" " " "

直接在新版本中搜索：

```
public static CharSequence a(String str, List<k.a.a.g.b0.z> list, k.a.a.g.b.k0 k0Var, m0.a aVar) {
    int i;
    if (list == null || TextUtils.isEmpty(str)) {
        return str;
    }
    SpannableStringBuilder spannableStringBuilder = new SpannableStringBuilder(str);
    for (k.a.a.g.b0.z zVar : list) {
        if (spannableStringBuilder.length() >= zVar.b && spannableStringBuilder.length() >= zVar.a) {
            k.a.a.g.b0.d0 d0Var = zVar.c;
            if (d0Var == null || TextUtils.isEmpty(d0Var.b)) {
                i = 0;
            } else {
                spannableStringBuilder.replace(zVar.a, zVar.b, (CharSequence) zVar.c.b.replace(" ", " "));
                i = zVar.c.b.length() - (zVar.b - zVar.a);
            }
            if (k0Var == null) {
                if (zVar.d) {
                    k0Var = k.a.a.g.b.k0.e;
                } else {
                    k0Var = k.a.a.g.b.k0.d;
                }
            }
            spannableStringBuilder.setSpan(new m0(zVar, k0Var, new x0(null), aVar), zVar.a, zVar.b + i, 33);
        }
    }
    return spannableStringBuilder;
}
```

Smali:

a(Ljava/lang/String;Ljava/util/List;Lk/a/a/g/b/k0;Lk/a/a/g/b/m0\$a;)Ljava/lang/CharSequence;

k.a.a.g.w.n.a(java.lang.String,java.util.List,k.a.a.g.b.k0,k.a.a.g.b.m0\$a)

### 3.

原函数:

```
@Override // com.linecorp.advertise.delivery.client.view.b.a
public final void a(com.linecorp.advertise.delivery.client.view.b.d dVar, com.linecorp.advertise.delivery.client.view.b.c cVar, b.Abstrac
    if (dVar instanceof com.linecorp.advertise.delivery.client.view.expandable.f) {
        if (cVar != null || bVar == null) {
            if (!this.f18162g.containsKey(cVar)) {
                this.f18162g.put(cVar, null);
                a(cVar);
            }
            com.linecorp.advertise.delivery.client.view.expandable.f fVar = (com.linecorp.advertise.delivery.client.view.expandable.f) d
            fVar.setEventCheckArea(this.u);
            com.linecorp.advertise.delivery.client.view.expandable.b bVar2 = this.f18162g.get(cVar);
            this.f18164i.put(fVar, new Pair<>(cVar, bVar));
            if (bVar2 == null) {
                fVar.a(com.linecorp.advertise.delivery.client.view.expandable.a.DATA_LOADING);
                return;
            }
            fVar.setOnContentViewClickListener(new b(bVar2.f18266g));
            if (!com.linecorp.advertise.delivery.client.b.a.c(bVar2.f18266g)) {
                fVar.a(com.linecorp.advertise.delivery.client.view.expandable.a.DATA_LOADING_FAIL);
                if (bVar != null) {
                    bVar.b();
                    return;
                }
                return;
            }
            if (a(bVar2.f18266g)) {
                fVar.getContentView().setTag(a.d.line_ad_info_key, cVar);
            } else {
                fVar.getLineVideoView().setTag(a.d.line_ad_info_key, cVar);
            }
            a(cVar, fVar, bVar, bVar2);
            if (bVar != null) {
                bVar.a();
                return;
            }
            return;
        }
        bVar.b();
    }
}
```

通过: .getLineVideoView().setTag 找到函数

```
@Override // k.a.r.i.b.j.f.a
public void a(k.a.r.i.b.j.f.d dVar, k.a.r.i.b.j.f.c cVar, b.AbstractC1688b bVar) {
    if (dVar instanceof e) {
        if (!this.n.containsKey(cVar)) {
            this.n.put(cVar, null);
            a aVar = new a(this, cVar);
            k kVar = this.x;
            cVar.a = aVar;
            ((k.a.r.i.b.c) cVar.d).a(k.a(kVar), cVar);
        }
        e eVar = (e) dVar;
        eVar.setEventCheckArea(this.z);
        k.a.r.i.b.j.g.e eVar2 = this.n.get(cVar);
        eVar.getLineVideoView().setTag(k.a.r.d.line_ad_info_key, cVar);
        this.p.put(eVar, new Pair<>(cVar, bVar));
        if (eVar2 == null) {
            eVar.a(cVar.h, cVar.i, this.y);
            eVar.a(k.a.r.i.b.j.g.d.DATA_LOADING);
            eVar.a(false, false);
            return;
        }
        eVar.setOnContentViewClickListener(new c(eVar2.a));
        if (!s.b((k.a.r.f.b) eVar2.a)) {
            eVar.a(cVar.h, cVar.i, this.y);
            eVar.a(k.a.r.i.b.j.g.d.DATA_LOADING_FAIL);
            eVar.a(false, false);
            if (bVar != null) {
                ((v3.d) bVar).a();
                return;
            }
            return;
        }
    }
    C1693d dVar2 = this.s;
    if (dVar2 != null && dVar2.a.equals(eVar2)) {
        k.a.t0.q.m.e eVar3 = this.s.c;
        eVar2.b = eVar3.b;
        e.a aVar2 = eVar3.a;
        if (aVar2 == e.a.FORCE_PAUSE) {
            eVar2.c = e.a.FORCE_PAUSE;
        } else if (aVar2 == e.a.COMPLETE) {
            eVar2.c = e.a.COMPLETE;
        } else {
            eVar2.c = e.a.DEFAULT;
        }
        this.s = null;
    }
}
```

Smali:

k.a.r.i.b.j.g.l.d.a(k.a.r.i.b.j.f.d,k.a.r.i.b.j.f.c,k.a.r.i.b.j.f.b\$b)

#### 4.

```
@Override // androidx.recyclerview.widget.RecyclerView.a
public final /* synthetic */ void onBindViewHolder(RecyclerView.x xVar, int i2, List list) {
    boolean z;
    c cVar = (c) xVar;
    if (list == null || list.isEmpty()) {
        z = false;
    } else {
        for (Object obj : list) {
            if (obj instanceof g) {
                cVar.a((g) obj);
                "partialUpdate exists. - ".concat(String.valueOf(obj));
                d.c();
            }
        }
        z = true;
    }
    if (!z) {
        onBindViewHolder(cVar, i2);
    }
}
```

利用

"partialUpdate exists. - "

```
@Override // androidx.recyclerview.widget.RecyclerView.g
public void onBindViewHolder(RecyclerView.d0 d0Var, int i, List list) {
    boolean z;
    c cVar = (c) d0Var;
    if (list == null || list.isEmpty()) {
        z = false;
    } else {
        for (Object obj : list) {
            if (obj instanceof i) {
                cVar.a((i) obj);
                j.a.a.a.f1.b.a("ChooseDeviceContactActivity.RecyclerViewAdapter", "partialUpdate exists. - " + obj)
            }
        }
        z = true;
    }
    if (!z) {
        onBindViewHolder(cVar, i);
    }
}
```

Smali:

onBindViewHolder(Landroidx/recyclerview/widget/RecyclerView\$d0;ILjava/util/List;)V

j.a.a.a.d.y0.b.u.b.onBindViewHolder(androidx.recyclerview.widget.RecyclerView\$d0,int,java.util.List)

## 5.

原函数：

```
@Override // androidx.recyclerview.widget.RecyclerView.h
public final void a(Rect rect, View view, RecyclerView recyclerView, RecyclerView.u uVar) {
    int i2;
    RecyclerView.a adapter = this.f44180a.getAdapter();
    Integer valueOf = adapter != null ? Integer.valueOf(adapter.getItemCount()) : null;
    int childAdapterPosition = recyclerView.getChildAdapterPosition(view);
    if (valueOf == null || valueOf.intValue() - 1 != childAdapterPosition) {
        ViewGroup.LayoutParams layoutParams = recyclerView.getLayoutParams();
        if (layoutParams != null) {
            i2 = ((ConstraintLayout.a) layoutParams).x;
        } else {
            throw new u("null cannot be cast to non-null type androidx.constraintlayout.widget.ConstraintLayout.LayoutParams");
        }
    } else {
        i2 = 0;
    }
    rect.bottom = i2;
}
```

利用：

("null cannot be cast to non-null type  
androidx.constraintlayout.widget.ConstraintLayout.LayoutParams")

以及函数参数的判断

```
@Override // androidx.recyclerview.widget.RecyclerView.n
public void a(Rect rect, View view, RecyclerView recyclerView, RecyclerView.a0 a0Var) {
    int i;
    RecyclerView.g adapter = this.a.getAdapter();
    Integer valueOf = adapter != null ? Integer.valueOf(adapter.getItemCount()) : null;
    int childAdapterPosition = recyclerView.getChildAdapterPosition(view);
    if (valueOf == null || valueOf.intValue() - 1 != childAdapterPosition) {
        ViewGroup.LayoutParams layoutParams = recyclerView.getLayoutParams();
        if (layoutParams != null) {
            i = ((ConstraintLayout.a) layoutParams).x;
        } else {
            throw new p("null cannot be cast to non-null type androidx.constraintlayout.widget.ConstraintLayout.LayoutParams");
        }
    } else {
        i = 0;
    }
    rect.bottom = i;
}
```

Smali:

a(Landroid/graphics/Rect;Landroid/view/View;Landroidx/recyclerview/widget/RecyclerView;Landroidx/recyclerview/widget/RecyclerView\$a0;)V

包的层次不同？

k.a.b.b.a.o.o.f0.a(android.graphics.Rect,android.view.View,androidx.recyclerview.widget.RecyclerView,androidx.recyclerview.widget.RecyclerView\$a0)

## 6.

原函数：

```
static /* synthetic */ bf a(BirthdayWriteActivity birthdayWriteActivity, String str, String str2) {
    bf bfVar = new bf();
    bfVar.f38799c = birthdayWriteActivity.f34057g;
    if (!TextUtils.isEmpty(str)) {
        bfVar.n.f38813a = str;
    }
    if (!TextUtils.isEmpty(str2)) {
        bfVar.n.m.f38983d = str2;
    }
    ba baVar = null;
    ArrayList<com.linecorp.line.timeline.activity.write.writeform.c.d> e2 = com.linecorp.line.timeline.activity.write.writeform.upload.f.a().h().e();
    if (jp.naver.android.b.d.a.b(e2)) {
        baVar = com.linecorp.line.timeline.activity.write.writeform.c.d.a(e2.get(0));
    }
    if (baVar != null) {
        bfVar.n.f38815c = new ArrayList();
        bfVar.n.f38815c.add(baVar);
    }
    return bfVar;
}
```

找临近函数：中的字符串："timeline\_bd\_writingform"

由此定位到目标函数（函数的参数都变了）

```
public final f1 a(String str, String str2) {
    f1 f1Var = new f1();
    f1Var.c = this.l;
    if (!TextUtils.isEmpty(str)) {
        f1Var.n.a = str;
    }
    if (!TextUtils.isEmpty(str2)) {
        f1Var.n.m.d = str2;
    }
    k.a.a.g.c0.a1 a1Var = null;
    ArrayList<x0> e = u.m().f().e();
    if (y5.c.r0.a.b(e)) {
        a1Var = x0.a(e.get(0));
    }
    if (a1Var != null) {
        f1Var.n.c = new ArrayList();
        f1Var.n.c.add(a1Var);
    }
    return f1Var;
}
```

Smali:

a(Ljava/lang/String;Ljava/lang/String;)Lk/a/a/g/c0/f1;

com.linecorp.line.timeline.activity.birthday.write.BirthdayWriteActivity.a(java.lang.String,java.lang.String)

## 7.

原函数:

```
public static String a(long j, com.linecorp.linekeep.d.b bVar, String str) {
    DecimalFormat decimalFormat = new DecimalFormat();
    double a2 = bVar.a(j);
    if (bVar == com.linecorp.linekeep.d.b.GIBIBYTE || bVar == com.linecorp.linekeep.d.b.MEBIBYTE) {
        double d2 = (double) com.linecorp.linekeep.d.b.MEBIBYTE.sizeInBytes;
        Double.isNaN(d2);
        if (((double) (j % com.linecorp.linekeep.d.b.MEBIBYTE.sizeInBytes)) >= d2 * 0.1d) {
            DecimalFormat decimalFormat2 = new DecimalFormat();
            decimalFormat2.applyPattern("###.#");
            return decimalFormat2.format(a2) + bVar.text;
        }
    }
    if (!TextUtils.isEmpty(str)) {
        decimalFormat.applyPattern(str);
    }
    return decimalFormat.format(a2) + bVar.text;
}
```

"###.#"

连参数都变了?

```
public static /* synthetic */ String a(long j2, String str, b bVar, int i) {
    if ((i & 2) != 0) {
        str = "####";
    }
    if ((i & 4) != 0) {
        bVar = b.b(j2);
    }
    DecimalFormat decimalFormat = new DecimalFormat();
    double a2 = bVar.a(j2);
    if (bVar == b.GIBIBYTE || bVar == b.MEBIBYTE) {
        long j3 = b.MEBIBYTE.sizeInBytes;
        if (((double) (j2 % j3)) >= ((double) j3) * 0.1d) {
            decimalFormat.applyPattern("###.#");
            return decimalFormat.format(a2) + bVar.text;
        }
    }
    if (str.length() > 0) {
        decimalFormat.applyPattern(str);
    }
    return decimalFormat.format(a2) + bVar.text;
}
```

Smali:

a(JLjava/lang/String;Lk/a/d/k/b;l)Ljava/lang/String;

k.a.d.q.h.a(long,java.lang.String,k.a.d.k.b,int)

## 8.

原函数:

```
public static final void a(ah ahVar, s sVar, aa aaVar) throws Exception {
    a(ahVar, sVar, k.a(sVar.o, aaVar.f21580a.h(), sVar.d()));
    e eVar = p.a().f21940a;
    Map<String, String> map = eVar.f21708a.get(sVar.k);
    for (Map.Entry<String, String> entry : aaVar.a(sVar).entrySet()) {
        String key = entry.getKey();
        if (!"host".equalsIgnoreCase(key)) {
            if (map.containsKey(key)) {
                key = map.get(key);
            }
            v.a(ahVar, key.toLowerCase(Locale.getDefault()), entry.getValue());
        }
    }
}
```

借助附近函数的字符串:

"scheme",

找到

```
public static final void a(c6.b.a.d.a.f.f0 f0Var, k.a.l0.c.s sVar, k.a.l0.c.a0 a0Var) throws Exception {
    a(f0Var, sVar, k.a.l0.c.k.a(sVar.p, a0Var.a.g(), sVar.c()));
    k.a.l0.c.e eVar = k.a.l0.c.p.a().b;
    Map<String, String> map = eVar.a.get(sVar.f4090k);
    for (Map.Entry<String, String> entry : a0Var.b(sVar).entrySet()) {
        String key = entry.getKey();
        if (!Http2ExchangeCodec.HOST.equalsIgnoreCase(key)) {
            if (map.containsKey(key)) {
                key = map.get(key);
            }
            ((c6.b.a.d.a.f.c) f0Var).a.a(key.toLowerCase(Locale.ROOT), (Object) entry.getValue());
        }
    }
}
```

Smali:

a(Lc6/b/a/d/a/f/f0;Lk/a/l0/c/s;Lk/a/l0/c/a0;)V

k.k.c.a.d.s.a(c6.b.a.d.a.f.f0,k.a.l0.c.s,k.a.l0.c.a0)



9.

原函数:

```
public static Pair<Integer, Integer> a(String str, long j, File file, r rVar, g.c cVar, g.b bVar, Map<String, String> map, c cVar2) throws IOException {
    try {
        return a(str, j, new Uri.Builder().path(file.getPath()).build(), rVar, cVar, bVar, map, cVar2);
    } catch (d e2) {
        throw new IOException(e2);
    }
}
```

利用:

Uri.Builder().path(file.getPath()).build()

找到:

```
public static Pair<Integer, Integer> b(String str, long j2, File file, s sVar, c cVar, b bVar, Map<String, String> map, j.a.a.a.b2.d.d dVar) {
    try {
        return a(str, j2, new Uri.Builder().path(file.getPath()).build(), sVar, cVar, bVar, map, dVar);
    } catch (j.a.a.a.l.x.f.c e2) {
        throw new IOException(e2);
    }
}
```

Smali:

b(Ljava/lang/String;LJava/io/File;Lj/a/a/a/b2/e/s;Lj/a/a/a/b2/e/h\$c;Lj/a/a/a/b2/e/h\$b;Ljava/util/Map;Lj/a/a/a/b2/d/d;)

j.a.a.a.b2.e.h.b(java.lang.String,long,java.io.File,j.a.a.a.b2.e.s,j.a.a.a.b2.e.h\$c,j.a.a.a.b2.e.h\$b,java.util.Map,j.a.a.a.b2.d.d)

## 10.

原函数：

```
private static c c(Context context, String str, String str2) {
    c cVar = null;
    if (TextUtils.isEmpty(str2)) {
        if (TextUtils.isEmpty(str)) {
            str2 = jp.naver.line.android.db.c.a.b.a(jp.naver.line.android.db.c.a.a.SKIN_FILE, (String) null);
        } else {
            str2 = f(context, str).a().d(str);
            if (str2 == null) {
                str2 = jp.naver.line.android.db.c.a.b.a(jp.naver.line.android.db.c.a.a.SKIN_FILE, (String) null);
            }
        }
    }
    boolean z = jp.naver.line.android.b.j;
    if (!TextUtils.isEmpty(str2)) {
        if (f92416b.f89010c.equals(str2)) {
            cVar = f92416b;
        } else if (f92415a.f89010c.equals(str2)) {
            cVar = f92415a;
        } else if (SquareChatUtils.a(str)) {
            cVar = new SquareChatBackgroundSkin(context, str2);
        } else {
            cVar = new c(str2);
        }
    }
    return (cVar == null || cVar.equals(f92416b) || cVar.equals(f92415a) || cVar.e() || cVar.a(a(context)).exists()) ? cVar : f92415a;
}
```

周围的函数使用了：

```
public static void e(Context context) {
    if (g.a(context, "p_default_wallpaper_v2.jpg")) {
        f.a(context.getFileStreamPath("p_default_wallpaper_v2.jpg"));
    }
    if (g.a(context, "l_default_wallpaper_v2.jpg")) {
        f.a(context.getFileStreamPath("l_default_wallpaper_v2.jpg"));
    }
}
```

"p\_default\_wallpaper\_v2.jpg"字符串

利用字符串找到：

```
public static d a(Context context, String str, String str2) {
    d dVar = null;
    if (TextUtils.isEmpty(str2)) {
        if (TextUtils.isEmpty(str)) {
            str2 = j.a.a.a.j.t.b.b.a(j.a.a.a.j.t.b.a.SKIN_FILE, (String) null);
        } else {
            str2 = d(context, str).h.b.b(str);
            if (str2 == null) {
                str2 = j.a.a.a.j.t.b.b.a(j.a.a.a.j.t.b.a.SKIN_FILE, (String) null);
            }
        }
    }
    if (!TextUtils.isEmpty(str2)) {
        if (b.a.equals(str2)) {
            dVar = b;
        } else if (a.a.equals(str2)) {
            dVar = a;
        } else if (SquareChatUtils.a(str)) {
            dVar = new SquareChatBackgroundSkin(context, str2);
        } else {
            dVar = new d(str2);
        }
    }
    return (dVar == null || dVar.equals(b) || dVar.equals(a) || dVar.g() || dVar.a(d(context)).exists()) ? dVar : a;
}
```

Smali:

j.a.a.a.v0.b1.h.a(android.content.Context,java.lang.String,java.lang.String)