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public static void main(String[] args) {
    ClassPool pool = ClassPool.getDefault();
    boolean useRuntimeClass = true;
    if (useRuntimeClass) {
        ClassClassPath classPath = new ClassClassPath(new Rectangle().getClass());
        pool.insertClassPath(classPath);
    } else {
        String strClassPath = workDir + "\\bin";
        pool.insertClassPath(strClassPath);
    }
    CtClass cc = pool.get("Target.Rectangle");
    cc.setSuperClass(pool.get("Target.Point"));
    cc.writeFile(outputDir);

    CtClass cc = pool.makeClass("Point2");
    CtClass cc = pool.makeInterface("IPoint");
    CtInterface.writeToFile(outputDir);

    CtMethod m = cc.getDeclaredMethod("say");
    m.insertBefore("{ System.out.println(\"Hello.say:\"); }");
    Class<?> c = cc.toBytecode();
    Hello h = (Hello) c.newInstance();
    h.say();

    Loader cl = new Loader(cp);
    CtClass cc = cp.get(TARGET_RECTANGLE);
    cc.setSuperClass(cp.get(TARGET_POINT));
    Class<?> c = cl.loadClass(TARGET_RECTANGLE);
    Object rect = c.newInstance();
    System.out.println("[DBG] rect object: " + rect);
    Class<?> rectClass = rect.getClass();
    Method m = rectClass.getDeclaredMethod("getVal", new Class[] {});

    SampleLoader s = new SampleLoader(); //constr: pool = new
    ClassPool(); pool.insertClassPath(inputDir); // MyApp.class must be there.
    Class<?> c = s.loadClass("MyApp");
    c.getDeclaredMethod("main", new Class[] { String[].class }).invoke(null, new
    Object[] { args });
    CtClass cc = pool.get(name);
    // modify the CtClass object here
    if (name.equals("MyApp")) {
        CtField f = new CtField(CtClass.intType, "hiddenValue", cc);
        f.setModifiers(Modifier.PUBLIC);
        cc.addField(f);
    }
    byte[] b = cc.toBytecode();
    return defineClass(name, b, 0, b.length);

    CtMethod m = cc.getDeclaredMethod("move");
    m.insertBefore("{ System.out.println(\"[DBG] param1: \" + $1); " + //
    "System.out.println(\"[DBG] param2: \" + $2); }");
    cc.writeFile(outputDir);

    ClassPool defaultPool = ClassPool.getDefault();
    defaultPool.insertClassPath(INPUT_PATH);
    CtClass cc = defaultPool.get(TARGET_MYAPP);
    CtMethod m = cc.getDeclaredMethod(FACT_METHOD);
    m.useCflow(FACT_METHOD);
    m.insertBefore("if ($cflow(fact) == 0) " + System.lineSeparator() + //
    "System.out.println(\"[MyAppFact Inserted] fact \" + $1);");
    cc.writeFile(OUTPUT_PATH);
    InsertMethodBodyCflow s = new InsertMethodBodyCflow(); //pool = new
    ClassPool(); pool.insertClassPath(OUTPUT_PATH); // TARGET must be there.

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Class<?> c = s.loadClass(TARGET_MYAPP);
Method mainMethod = c.getDeclaredMethod("main", new Class[] { String[].class
});
mainMethod.invoke(null, new Object[] { args });
//findClass method: cc = pool.get(name); byte[] b = cc.toBytecode(); return
defineClass(name, b, 0, b.length);

SubstituteMethodBody s = new SubstituteMethodBody(); // pool = new
ClassPool(); pool.insertClassPath(new ClassClassPath(new
java.lang.Object().getClass())); pool.insertClassPath(INPUT_PATH); // "target" must be
there.
Class<?> c = s.loadClass(TARGET_MY_APP);
Method mainMethod = c.getDeclaredMethod("main", new Class[] { String[].class
});
mainMethod.invoke(null, new Object[] { args });
cc = pool.get(name);
cc.instrument(new ExprEditor() {
    public void edit(MethodCall m) throws CannotCompileException {
        byte[] b = cc.toBytecode();
        return defineClass(name, b, 0, b.length);
    }
});

FieldAccess s = new FieldAccess(); //pool = new
ClassPool(); pool.insertClassPath(new ClassClassPath(new
java.lang.Object().getClass())); pool.insertClassPath(INPUT_PATH); // TARGET must be
there.
Class<?> c = s.loadClass(TARGET_MY_APP);
Method mainMethod = c.getDeclaredMethod("main", new Class[] {
String[].class });
mainMethod.invoke(null, new Object[] { args });

NewExprAccess s = new NewExprAccess();
Class<?> c = s.loadClass(TARGET_MY_APP2);
Method mainMethod = c.getDeclaredMethod("main", new Class[] {
String[].class });
mainMethod.invoke(null, new Object[] { args });
cc = pool.get(name);
cc.instrument(new ExprEditor() {
    public void edit(NewExpr newExpr) throws CannotCompileException {
        StringBuilder code = new StringBuilder();
        code.append("\ny: \" + \" + \"$_.y);\n }\n");
        // System.out.println(code);
        newExpr.replace(code.toString());
    }
});

String src = "public void xmove(int dx) { x += dx; }";
CtMethod newMethod = CtNewMethod.make(src, cc);
cc.addMethod(newMethod);
cc.writeFile(outputDir);

CtMethod newMethod = CtNewMethod.make(src, cc, "this", "move");
cc.addMethod(newMethod);
cc.writeFile(outputDir);

ClassPool pool = ClassPool.getDefault();
pool.insertClassPath(inputDir);
CtMethod newMethod = new CtMethod(CtClass.intType, "move", new CtClass[] {
CtClass.intType }, cc);
cc.addMethod(newMethod);
newMethod.setBody("{ x += $1; return x; }");
cc.setModifiers(cc.getModifiers() & ~Modifier.ABSTRACT);
cc.writeFile(outputDir);

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