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INTRODUCTION

WHAT WE TESTED

Team Steve tested Glucosio, an HFOSS app designed to help its users monitor their glucose level. We developed a driver to test five methods used in the Glucosio tool package: round(), glucoseToMgDl(), glucoseToMmolL(), glucoseToA1C(), a1cToGlucose(). All of these methods perform rounding operations to calculate various double values.

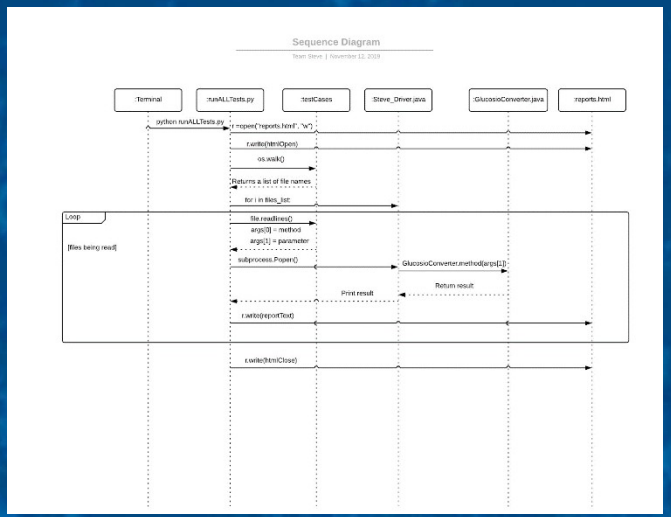
OUR DRIVER

```
public static void main(String args[]){

    String methodName = args[0];
    double argument = Double.parseDouble(args[1]);
    //double out = -1.0;
    Object out;
    int argument2;
    switch (methodName) {

        default:
            //argument2=Integer.parseInt(args[2]);
            //out = GlucosioConverter.round(argument,2);
            out= "invalid method called";
            break;

        case "round":
            //argument2=Integer.parseInt(args[2]);
            out = GlucosioConverter.round(argument,2);
            //out = GlucosioConverterOriginal.round(argument,2);
            break;

        case "glucoseToMgDl":

            out = GlucosioConverter.glucoseToMgDl(argument);
            break;

        case "glucoseToMmolL":

            out = GlucosioConverter.glucoseToMmolL(argument);
            //out = GlucosioConverterOriginal.glucoseToMmolL(argument);
            break;

        case "glucoseToA1C":

            out = GlucosioConverter.glucoseToA1C(argument);
            //out = GlucosioConverterOriginal.glucoseToA1C(argument);
            break;

        case "a1cToGlucose":

            out = GlucosioConverter.a1cToGlucose(argument);
            //out = GlucosioConverterOriginal.a1cToGlucose(argument);
            break;

        }

        System.out.println(out);
```

METHODOLOGY

OUR TESTING FRAMEWORK

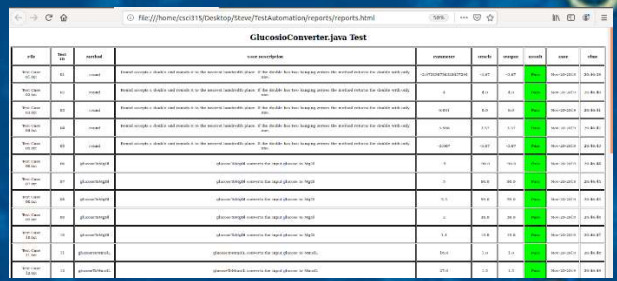
We developed a script that would read test cases from a folder and give their contents to our driver, which would in turn call the methods being tested in the Glucosio package. The script would then capture the results from the driver and record them in an html file.



RESULTS

RESULTS FROM TESTING

All of the methods we tested depended on the round method and passed regardless of what integer value was provided. Below is an example output.



We injected faults into the Glucosio code to exercise our framework and find any faults that might otherwise not have been detected. Below is an example output.