CS335A - Milestone 4

Group 2

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1   Compilation instructions

To compile and run the implementation, follow the steps below:

```
cd ./milestone4/src
make
./myCompiler ../tests/test$$.java   test$$.3ac
gcc x86.s -o x86
./x86
```

Here '$$' represents the test case number.

2   Assumptions

- Array instantiation cannot be done at declaration.
- Fields of a class declared in place is not supported. Constructor must be supported for default values to be initialized.
- Arrays must be instantiated with sizes in all dimensions. i.e

    ```
    int a[][] = new int[2][];
    ```

    this is not allowed since size for 2nd dimension is missing.

3   Additional features supported

An additional feature implemented includes support for static till the 3AC generation.

- All types of an array is implemented, not just primitive till the 3AC generation.
- Inheritance for symbol table is implemented till the 3AC generation.
- Strings are supported, including their concatenation and printing using the println statement in 3AC generation.
- Type casting (Primitive Type to Primitive Type) is supported for 3AC code.
- Import/Package is treated as a new type.

4   Extensions to 3AC from milestone 3

- 3AC representation for array access is changed.
- Indentations have been changed.

5 Manual changes to the generated assembly code

There need be no manual changes made to the assembly code before they are executed.

6 Unsupported features

- The keywords static and final are only supported, but their error checking is not done.
- In Java, a local variable can have the same name as a field declaration. But in our implementation, an error is generated.

7 Contribution

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