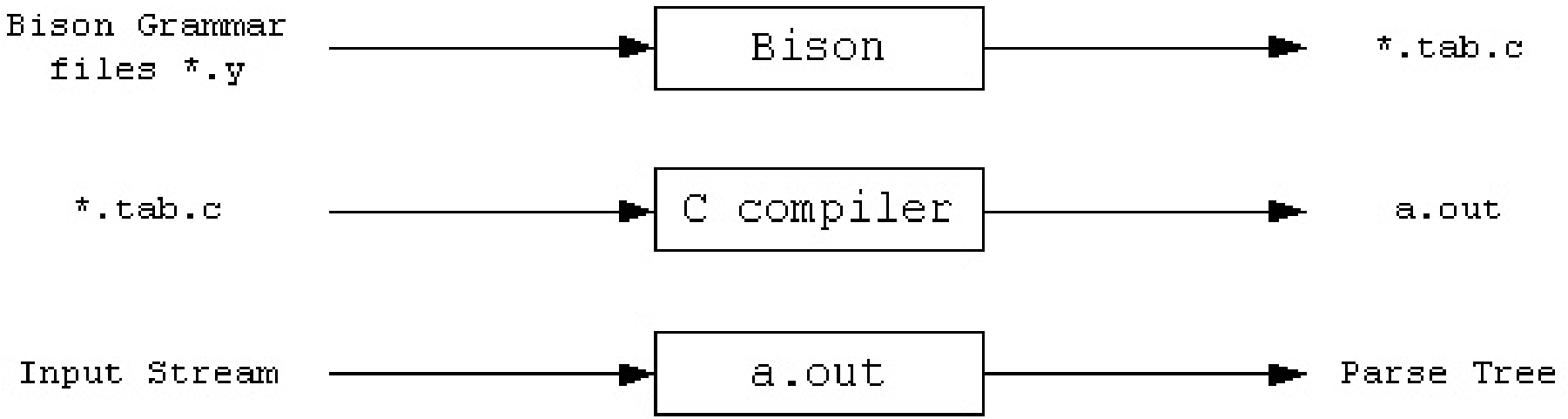
Bison

KC Sivaramakrishnan

IIT Madras

Bison

- Bison is a parser generator
- Bison is a bottom-up parser
- Accepts LALR(1) grammars and emits a C program to parse that grammar



Format of the input file

```
%{
C Declarations
%}
Bison Declarations
%%
Grammar Rules
%%
Additional C Code
```

- Useful Bison definitions: `%token`, `%union`, `%type`, `%left`, `%right`, `%nonassoc`, ...
- Important data structures and functions: `yylval`, `YYSTYPE`, `yyerror()`, `yyparse()`

Compiling the program

Assume that the flex file is `p1.l` and the bison file is `p1.y`. The compilation steps are:

```
$ flex p1.l # produces lex.yy.c, which is
            # included in p1.y through #include
$ bison p1.y # produces p1.tab.c
$ gcc p1.tab.c -o p1.exe -lfl
```