

1. Create the *program* by concatenating the program prolog, program body, and the program epilog.
2. Print the program to the PCode file.

Grammar:

program \rightarrow *program_head* *program_declarations* *program_body*
program_body \rightarrow *compound_statement* .

The program prolog is the same as the subprogram prolog

Subprogram prolog:

- Create a list of expression trees.
- Make each of the following three a single PCode instruction.
- Insert the PCode instructions into the list.

entry:

```
ent sp  splabel
ent ep  eplabel
```

The labels *entry*, *splabel* and the *eplabel* were created when the program identifier was entered into the symbol table

Steps.

1. Obtain the symbol descriptor for the program identifier, *P*.
 - 1.1. Note that *program_head*, (\$1) is the symbol descriptor for the program identifier, *P*.
2. string *entry*=*P*->*ELLabel*();
3. string *splabel*=*P*->*SPLLabel*();
4. string *eplabel*=*P*->*EPLLabel*();

Program body:

Append the list of statements (expression trees), referenced by *program_body* (\$3), to the list created above in the program prolog.

The program epilog is in two parts.

1. subprogram epilog
2. program epilog

Subprogram epilog:

- Append each of the following PCode instructions to the list created in the program prolog and extended in the program body.

```
rtn p
#define splabel spvalue
#define eplabel epvalue
```

Program epilog

```
mst 0
cup 0 entry
stp
```