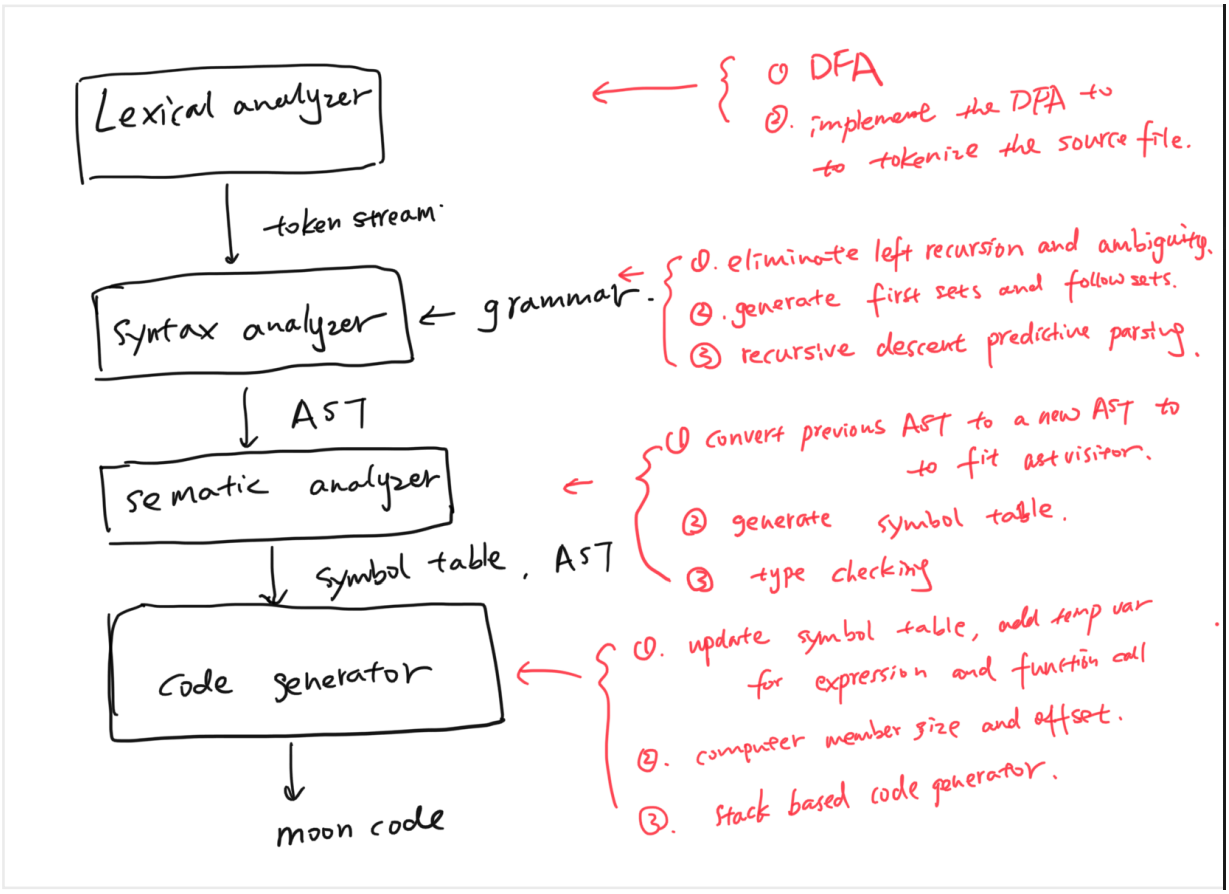
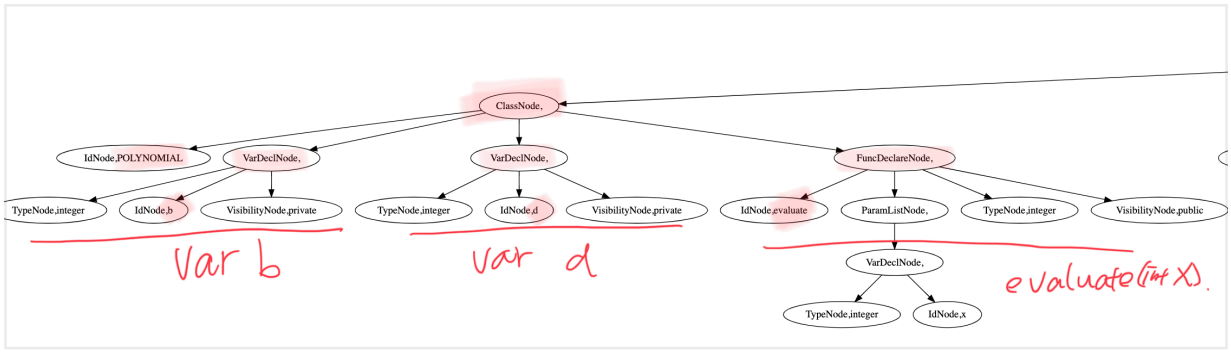
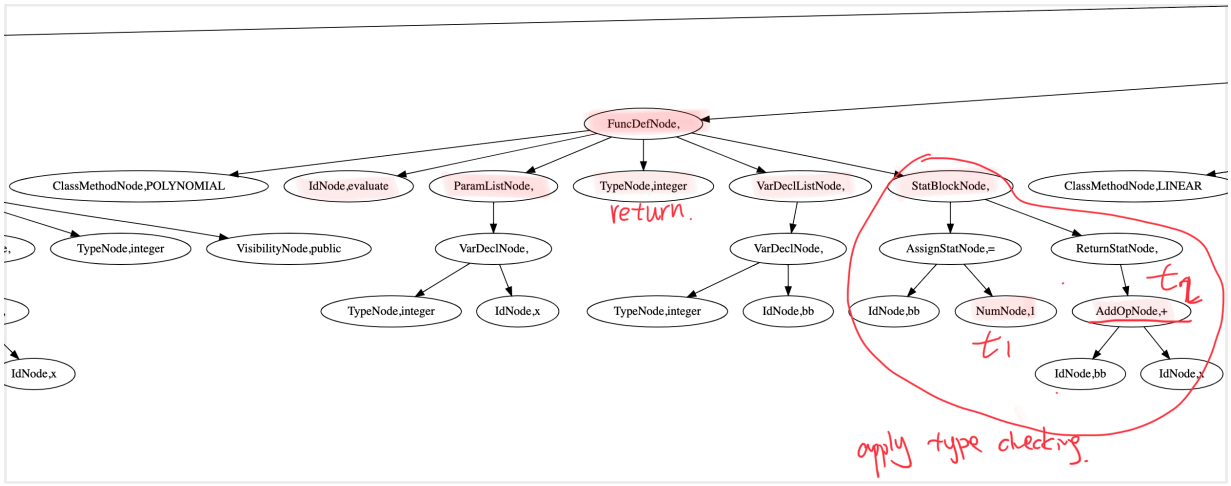



```
class POLYNOMIAL{
    private integer b;
    private integer d;
    public func evaluate(integer x) : integer;
};

class LINEAR inherits POLYNOMIAL
{
    private integer a;
    private integer b;
    POLYNOMIAL polynomial_obj;                          // object data members

    public func evaluate(integer x) : integer;
};



// ====== Function Definitions ====== //

func POLYNOMIAL::evaluate(integer x) : integer
{
  var
  {
    integer bb;                                          // if x = 2, then return 3;
  }
  bb = 1;
  return(bb+x);                                         // the function has a return
}
```






```
=============================================================
| class     | POLYNOMIAL                                    |
|    ===========================================================
|    | table: POLYNOMIAL       scope size: 8    |  size  | offset |
|    ===========================================================
|    | var       | b           | integer       |   4    |   -4   |
|    | var       | d           | integer       |   4    |   -8   |
|    | func      | evaluate    | integer                         |
|    |    ===================================================
|    |    | table: evaluate         scope size: 24             |
|    |    ===================================================
|    |    | param     | x           | integer      | 4    | -12  |
|    |    | var       | bb          | integer      | 4    | -16  |
|    |    | litval    | t1          | integer      | 4    | -20  |
|    |    | tempvar   | t2          | integer      | 4    | -24  |
|    |    ===================================================
|    ===========================================================
=============================================================
```

added in type checking stage.

added in computer member size stage.

```
evaluate0 sw -4(r14),r15   return link.
          % processing: t1 := 1
          addi r1,r0,1     }
          sw -20(r14),r1   }   save 1 to t1
          % processing: AssignStatNode(bb=1;)
          % processing: bb := t1          bb = t1
          lw r2,-20(r14)   }
          sw -16(r14),r2   }   t1 -> bb.
          % processing: t2 := bb+x
          lw r1,-16(r14) bb
          lw r4,-12(r14) x
          add  r5,r1,r4  bb+x
          sw -24(r14),r5   r5 -> t2.
          % processing: return(return(bb+x);)
          lw r3,-24(r14)  t2
          sw 0(r14),r3    t2 -> return value slot.
          lw r15,-4(r14)
          jr r15          } return
```

offset.

bb -16

t1 -20.

x -12.

t2 -24.