**An Example of OOP Code Generation with Decaf – TAC**

void main()

{

 Cow betsy;

 betsy = New(Cow);

 betsy.Init(100, 122);

 betsy.Moo();

}

class Cow {

 int height;

 int weight;

 void Init(int w, int h)

 {

 weight = w;

 height = h;

 }

 void Moo() {

 Print ( this.height, " ", this.weight, "\n" );

 }

}

**Generated TAC:**

main:

 BeginFunc 40 ;

 \_tmp0 = 12 ;

 PushParam \_tmp0 ;

 \_tmp1 = LCall \_Alloc ;

 PopParams 4 ;

 \_tmp2 = Cow ;

 \*(\_tmp1) = \_tmp2 ;

 betsy = \_tmp1 ;

 \_tmp3 = 100 ;

 \_tmp4 = 122 ;

 \_tmp5 = \*(betsy) ;

 \_tmp6 = \*(\_tmp5) ;

 PushParam \_tmp4 ;

 PushParam \_tmp3 ;

 PushParam betsy ;

 ACall \_tmp6 ;

 PopParams 12 ;

\_tmp7 = \*(betsy) ;

 \_tmp8 = \*(\_tmp7 + 4) ;

 PushParam betsy ;

 ACall \_tmp8 ;

 PopParams 4 ;

 EndFunc ;

\_Cow.Init:

 BeginFunc 0 ;

 \*(this + 8) = w ;

 \*(this + 4) = h ;

 EndFunc ;

\_Cow.Moo:

 BeginFunc 16 ;

 \_tmp9 = \*(this + 4) ;

 PushParam \_tmp9 ;

 LCall \_PrintInt ;

 PopParams 4 ;

 \_tmp10 = " " ;

 PushParam \_tmp10 ;

 LCall \_PrintString ;

 PopParams 4 ;

 \_tmp11 = \*(this + 8) ;

 PushParam \_tmp11 ;

 LCall \_PrintInt ;

 PopParams 4 ;

 \_tmp12 = "\n" ;

 PushParam \_tmp12 ;

 LCall \_PrintString ;

 PopParams 4 ;

 EndFunc ;

VTable Cow =

 \_Cow.Init,

 \_Cow.Moo,

;