**A5**

**Questions**

**1.** Do you notice that each usage of local variable as an operand uses a

suffix that can be tracked to it's assignment? Why do some variables

have a suffix `(D)'?

**Ans:** D is for literal type if not mentioned if is taken as D

**2.** Find the point in the CFG in which the paths of the two assignments

to variable `a' and `b' merge. You will notice that PHI statements

have been introduced. Can you guess the syntax of the PHI statements?

**Ans:** In CGF file the two assignments merge at block <bb5>.In SSA files each variable is assigned only once, So for the final the final operation one of the values will be chosen to assign for which PHI is used

**3.** Can you think of an example in which a PHI node merges more than two versions of a variable?

**Ans:** For more than one merging the if-else ladder has to be increased

i.e we need to add else-if block

int main()

{

int a, b, c, d;

d = 10;

if (c > d)

{

a = 3;

b = 2;

}

else if(c==d)

{

a=5;

b=7;

}

else

{

a = 2;

b = 3;

}

c = a + b;

}