```
public class simpleDataFlow {
public static  int computations(int  x , int y)  ①
{
int z = 0;  ②
    if(x > 0)  ③
    {
            z = x + y; } ④
            x=0;
    }else
    {
            z = x  - y; } ⑤
            y=0;
    }
    return z;  ⑥
    }
}
```
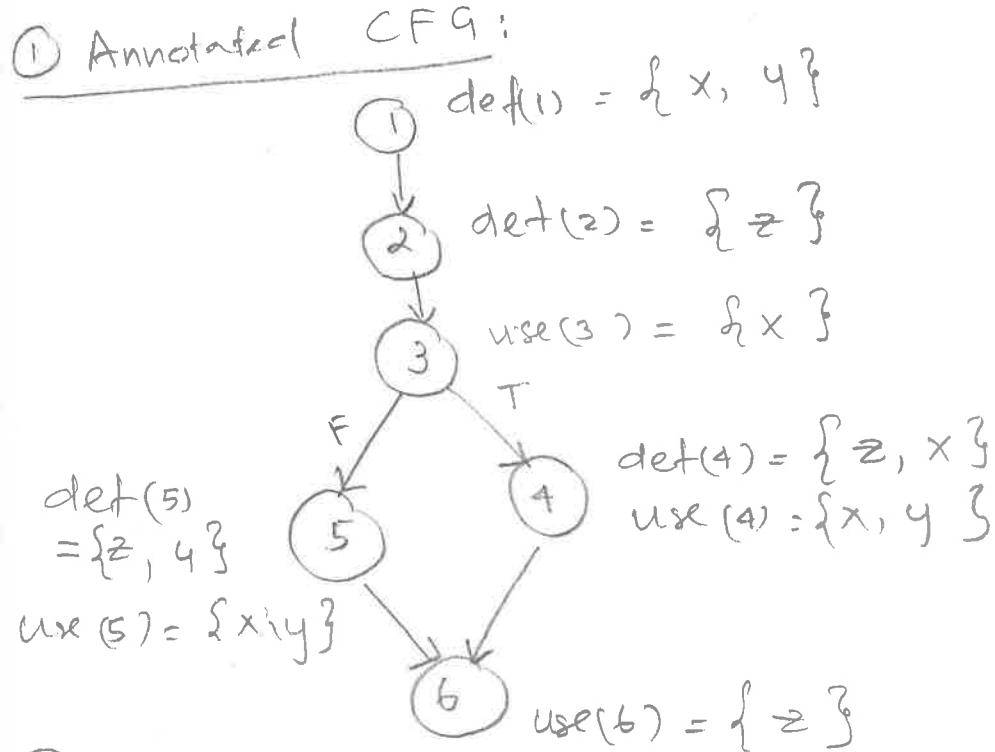
① Annotated CFG :

$def(1) = \{x, y\}$

$def(2) = \{z\}$

$use(3) = \{x\}$

T

$def(4) = \{z, x\}$
$use(4) : \{x, y\}$

$def(5)$
$= \{z, y\}$
$use(5) = \{x, y\}$

$use(6) = \{z\}$

③ D-u paths

$X = \quad 1 \to 2 \to 3$
$\quad\quad 1 \to 2 \to 3 \to 4$ #
$\quad\quad 1 \to 2 \to 3 - 5$ *

$Y = \quad 1 \to 2 \to 3 \to 4$ #
$\quad\quad 1 \to 2 \to 3 \to 5$ *

$z \quad = 4 \to 6$ #
$\quad\quad 5 \to 6$ +

④ Compromized paths

$(P1): 1 \to 2 \to 3 \to 4 \to 6$
$(P2): 1 \to 2 \to 3 \to 5 \to 6$

② D-u pairs

Variable	D-u pairs
X	(1, 3) (1,4) (4,-) (1, 5)
Y	(1,4) , (1, 5) (5,-)
Z	(2,-) , (4,6) (5,6)

(5)   Test cases

Test case #	Inputs (x, y)	Expected output (x, y, z)
1 (P_1)	$(3, 4)$	$(0, 4, 7)$
2 (P_2)	$(-3, 4)$	$(-3, 0, \pm 7)$