1.

public static int mod(int a, int b) {

assert b > 0 : "Violation of: b > 0";

if (a > 0 && b > 0) {

while (a >= b) {

a = a - b;

}

} else if (a < 0 && b > 0) {

while (-a >= b || a <= b) {

a = a + b;

}

} else if (a < 0 && b < 0) {

while (a <= b) {

a = a - b;

}

}

return a;

}

2.

i. Bucket Integer Hashed

0 432

1 17

2 54

3 -788

4 -101

5 84

6 0

7 -6

8 -195

9 90

ii. Bucket Integer Hashed

0 90

1 -195

2 -6

3 0

4 84

5 -101

6 -788

7 54

8 17

9 432