Q1: Pseudocode & Trace

main() {

pattern(5, 5);

}

pattern(int n, int num) {

if (n equals 0) {

return;

}

space(n - 1);

star(num - n + 1);

print(" ");

pattern(n - 1, num);

}

star(int star) {

if (star equals 0) {

return;

}

print("\* ");

star(star - 1);

}

space(int space) {

if (space equals 0) {

return;

}

print(" ");

space(space - 1);

}

Pattern (5,5)

Pattern (4,5)

Pattern (3,5)

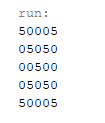
Pattern (2,5)

Pattern (0,5)

Pattern (1,5)

Q2

To clarify, assume that the number is 5.

 output

changeAndPrint(st[5][5], 5, -1, 5)

st[4][4] = 5;

st[4][0] = 5;

st[3][3] = 5;

st[3][1] = 5;

st[2][2] = 5;

st[2][3] = 5;

st[1][1] = 5;

st[1][3] = 5;

st[0][0] = 5;

st[0][4] = 5;

changeAndPrint(st[5][5], 4, 0, 5)

changeAndPrint(st[5][5], 3, 1, 5)

changeAndPrint(st[5][5], 2, 2, 5)

changeAndPrint(st[5][5], 1, 3, 5)

changeAndPrint(st[5][5], 0, 4, 5)