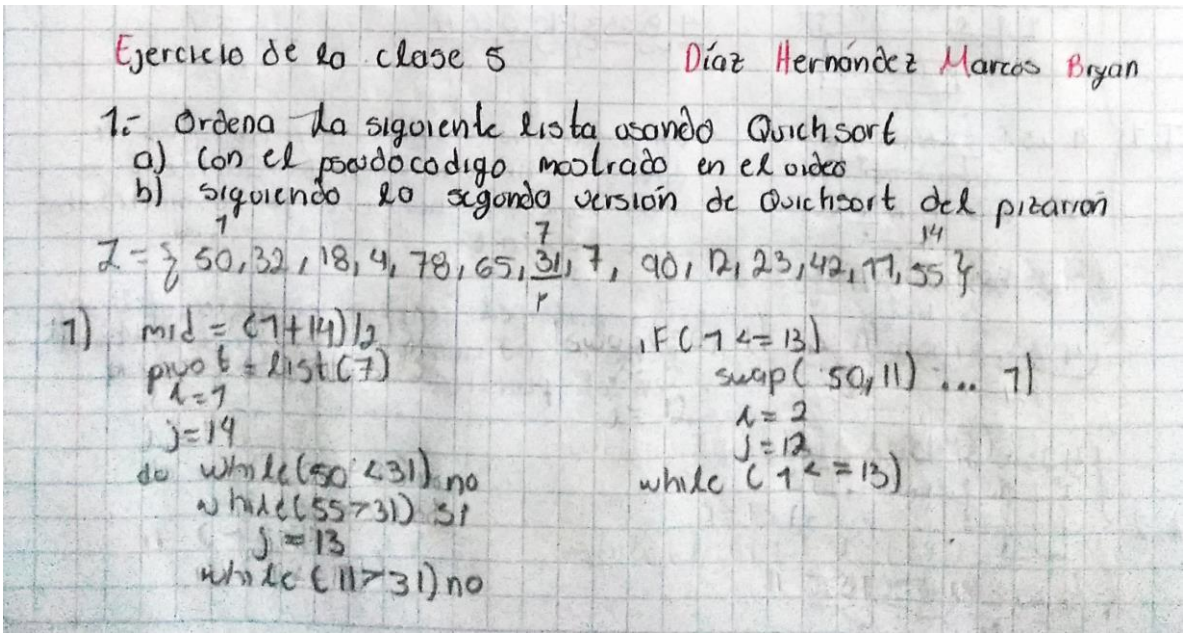


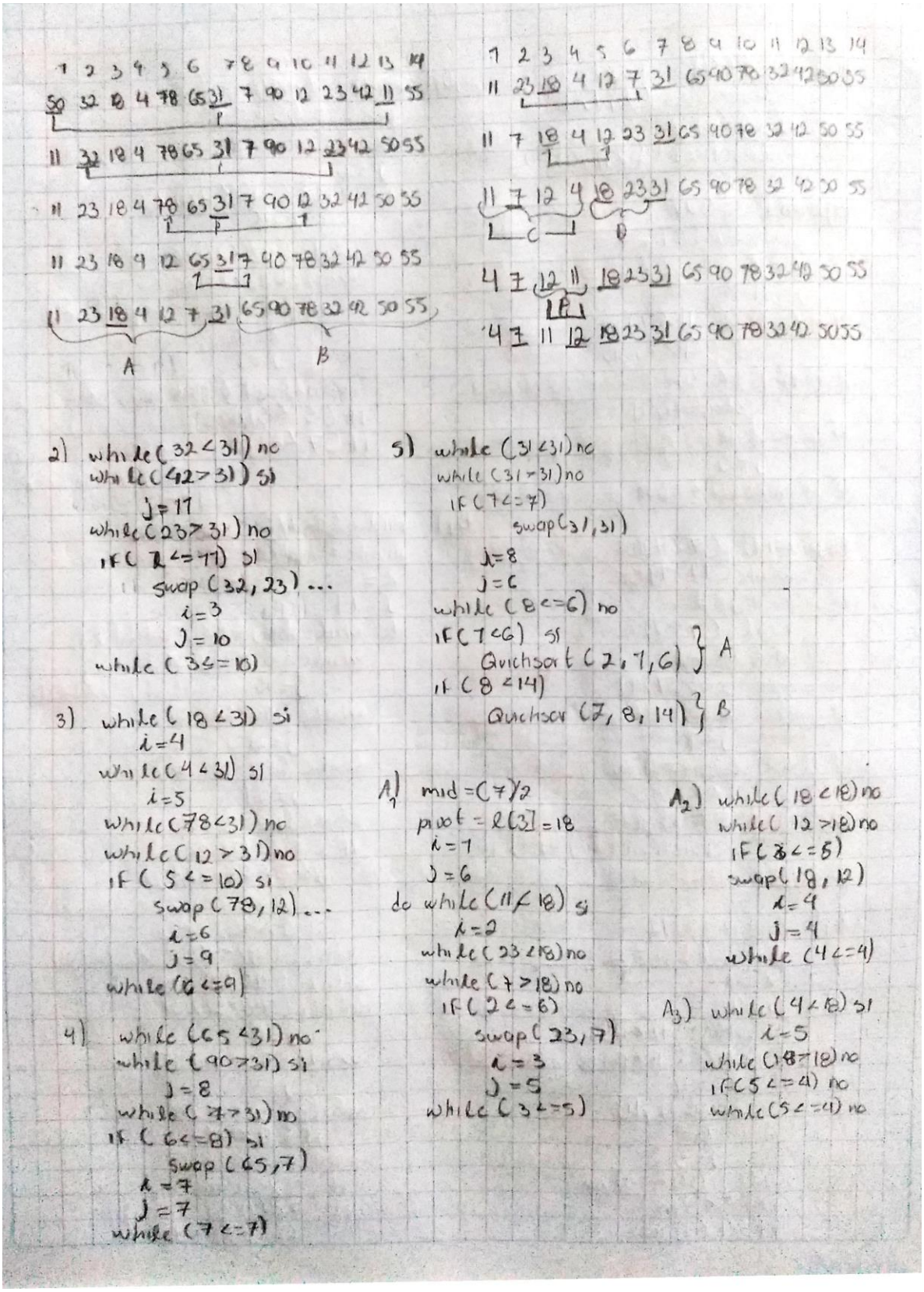
Ejercicio de la clase 5 Díaz Hernández Marcos Bryan

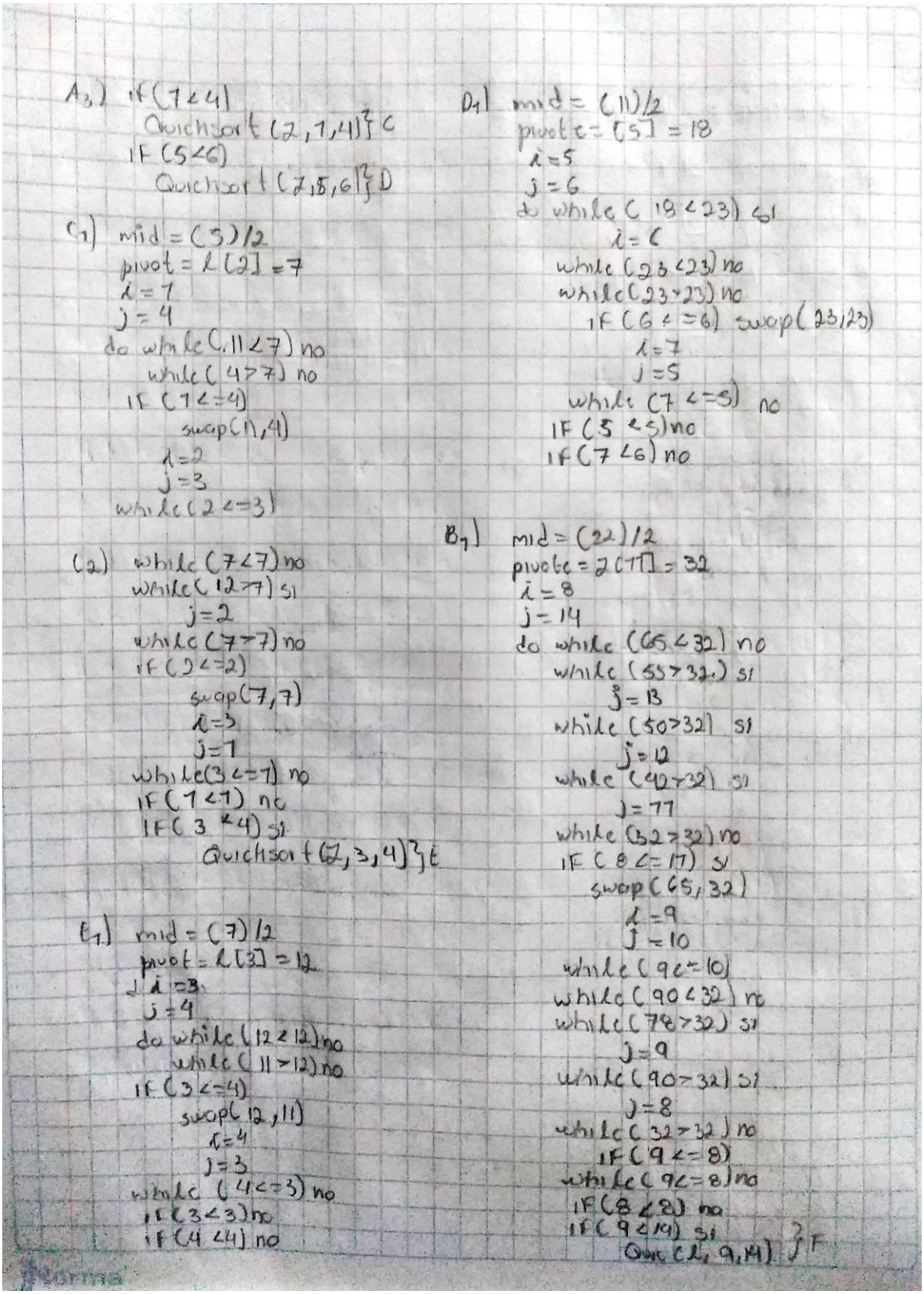
1.- Ordena la siguiente lista usando Quicksort
a) Con el psudocodigo mostrado en el video
b) siguiendo la segunda version de Quicksort del pizarron

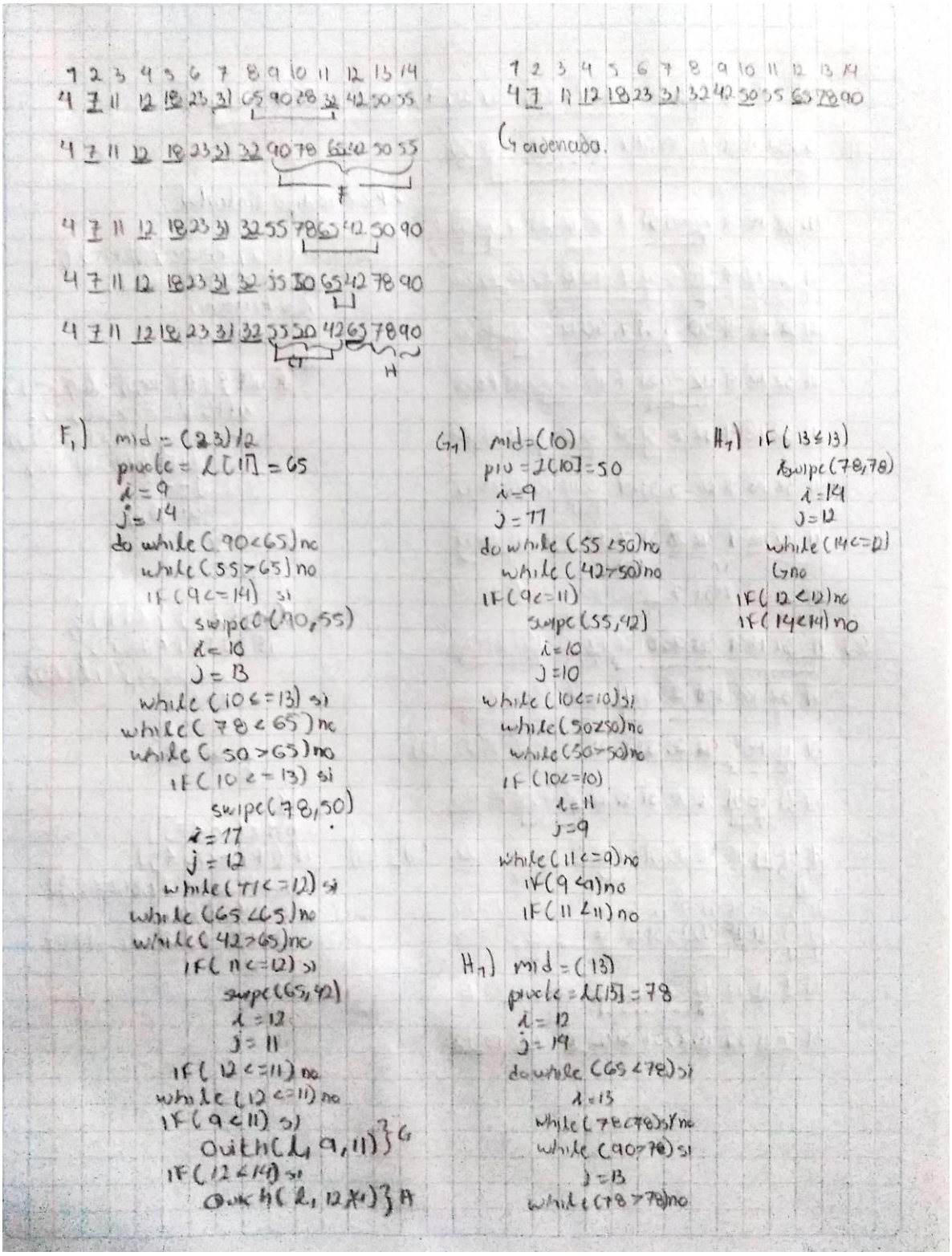
1 7 14
L = { 50, 32, 18, 4, 78, 65, 31, 7, 90, 12, 23, 42, 77, 55 }
r

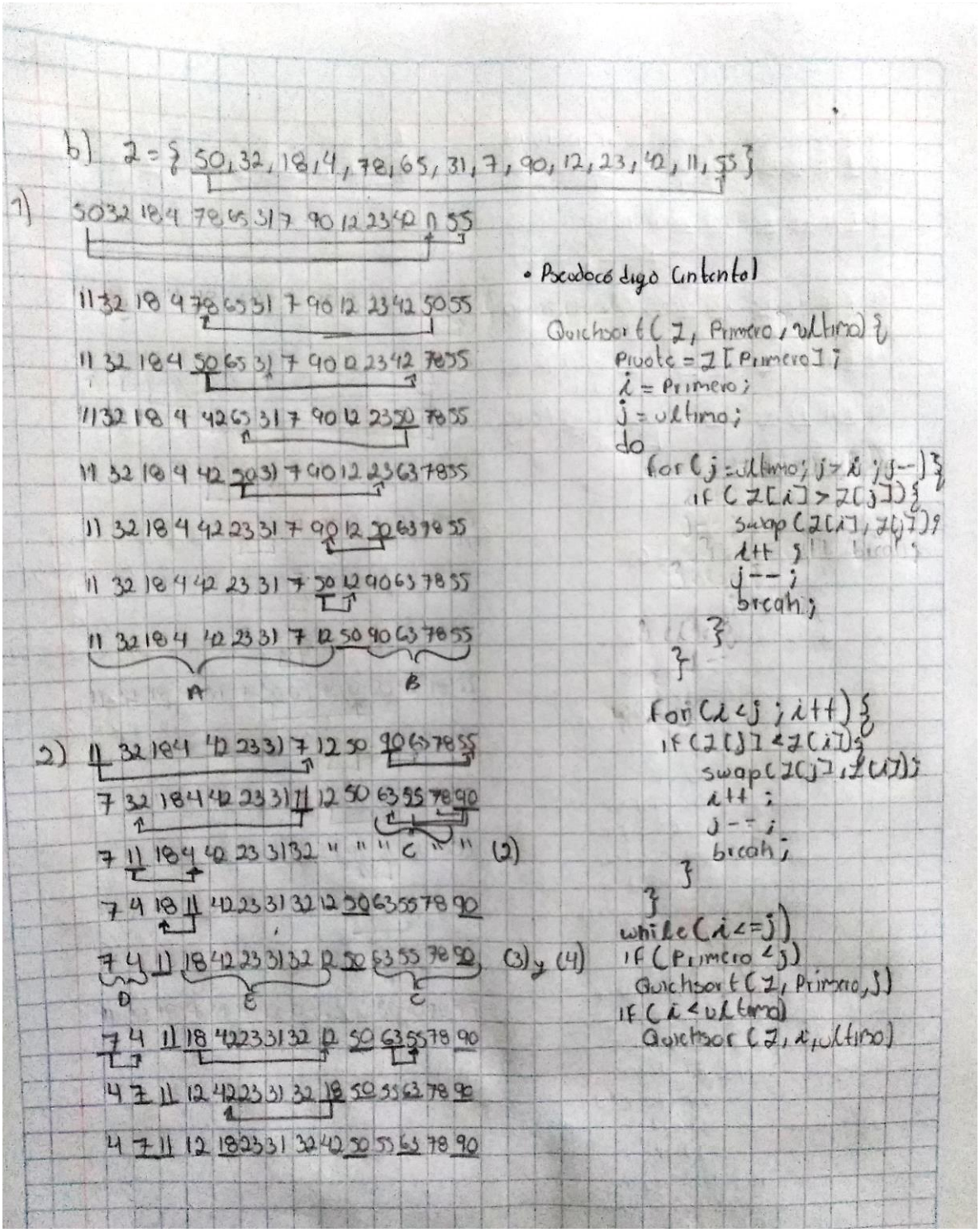
1) mid = (7+14)/2
pivot = list(7)
i=7
j=14
do while(50 < 31) no
while(55 > 31) si
j=13
while(11 > 31) no

IF(7 <= 13)
swap(50, 11) ... 7)
i=2
j=12
while(7 <= 13)


1 2 3 4 5 6 7 8 9 10 11 12 13 14
50 32 18 4 78 65 31 7 90 12 23 42 11 55
A
B
2) while(32<31) no
while(42>31) si
j=17
while(23>31) no
IF(2<=17) si
swap(32,23)...
i=3
j=10
while(3<=10)
3) while(18<31) si
i=4
while(4<31) si
i=5
while(78<31) no
while(12>31) no
IF(5<=10) si
swap(78,12)...
i=6
j=9
while(6<=9)
4) while(65<31) no
while(90>31) si
j=8
while(7>31) no
IF(6<=8) si
swap(65,7)
i=7
j=7
while(7<=7)
5) while(31<31) no
while(31>31) no
IF(7<=7)
swap(31,31)
i=8
j=6
while(8<=6) no
IF(7<6) si
Quicksort(2,7,6) } A
IF(8<14)
Quicksor(7,8,14) } B
A1) mid=(7)/2
pivot=e[3]=18
i=1
j=6
do while(11<18) si
i=2
while(23<18) no
while(7>18) no
IF(2<=6)
swap(23,7)
i=3
j=5
while(3<=5)
A2) while(18<18) no
while(12>18) no
IF(3<=5)
swap(18,12)
i=4
j=4
while(4<=4)
A3) while(4<18) si
i=5
while(18<18) no
IF(5<=4) no
while(5<=4) no


A3) if (7<4)
Quicksort (2,7,4) } C
IF (5<6)
Quicksort (7,5,6) } D
C1) mid = (5)/2
pivot = L[2] = 7
i = 7
j = 4
do while (11<7) no
while (4>7) no
IF (7<=4)
swap(1,4)
i=2
j=3
while (2<=3)
(2) while (7<7) no
while (12>7) si
j=2
while (7>7) no
IF (2<=2)
swap(7,7)
i=3
j=1
while (3<=1) no
IF (7<1) no
IF (3<4) si
Quicksort (7,3,4) } E
E1) mid = (7)/2
pivot = L[3] = 12
i = 3
j = 4
do while (12<12) no
while (11>12) no
IF (3<=4)
swap(12,11)
i=4
j=3
while (4<=3) no
IF (3<3) no
IF (4<4) no
D1) mid = (11)/2
pivote = [5] = 18
i=5
j=6
do while (18<23) si
i=6
while (23<23) no
while (23>23) no
IF (6<=6) swap(23,23)
i=7
j=5
while (7<=5) no
IF (5<5) no
IF (7<6) no
B1) mid = (22)/2
pivote = 2[11] = 32
i=8
j=14
do while (65<32) no
while (55>32) si
j=13
while (50>32) si
j=12
while (40>32) si
j=11
while (32>32) no
IF (8<=11) si
swap(65,32)
i=9
j=10
while (9<=10)
while (90<32) no
while (78>32) si
j=9
while (90>32) si
j=8
while (32>32) no
IF (9<=8)
while (9<=8) no
IF (8<8) no
IF (9<14) si
Quic(2,9,14) } F


1 2 3 4 5 6 7 8 9 10 11 12 13 14
4 7 11 12 18 23 31 65 90 78 32 42 50 55
4 7 11 12 18 23 31 32 90 78 65 42 50 55
4 7 11 12 18 23 31 32 55 78 65 42 50 90
4 7 11 12 18 23 31 32 55 50 65 42 78 90
4 7 11 12 18 23 31 32 55 50 42 65 78 90
G
H
1 2 3 4 5 6 7 8 9 10 11 12 13 14
4 7 11 12 18 23 31 32 40 50 55 65 78 90
(ordenado.
F1) mid = (23)/2
pivote = L[11] = 65
i = 9
j = 14
do while (90<65) no
while (55>65) no
IF (9<=14) si
swipe (90, 55)
i = 10
j = 13
while (10<=13) si
while (78<65) no
while (50>65) no
IF (10<=13) si
swipe (78, 50)
i = 11
j = 12
while (11<=12) si
while (65<65) no
while (42>65) no
IF (11<=12) si
swipe (65, 42)
i = 12
j = 11
IF (12<=11) no
while (12<=11) no
IF (9<11) si
Quick (L, 9, 11) } G
IF (12<14) si
Quick (L, 12, 14) } H
G1) mid = (10)
piv = L[10] = 50
i = 9
j = 11
do while (55<50) no
while (42>50) no
IF (9<=11)
swipe (55, 42)
i = 10
j = 10
while (10<=10) si
while (50>50) no
while (50>50) no
IF (10<=10)
i = 11
j = 9
while (11<=9) no
IF (9<9) no
IF (11<11) no
H1) mid = (13)
pivote = L[13] = 78
i = 12
j = 14
do while (65<78) si
i = 13
while (78<78) si no
while (90>78) si
j = 13
while (78>78) no
H1) IF (13<=13)
swipe (78, 78)
i = 14
j = 12
while (14<=12)
no
IF (12<12) no
IF (14<14) no


b) Z = { 50, 32, 18, 4, 78, 65, 31, 7, 90, 12, 23, 42, 11, 55 }
1)
2)
A
B
C
D
E
(2)
(3) y (4)
• Pseudocódigo (Contento)
Quicksort(Z, Primero, ultimo) {
Pivote = Z[Primero];
i = Primero;
j = ultimo;
do
for(j=ultimo; j>i ; j--){
if (Z[i] > Z[j]){
swap(Z[i], Z[j]);
i++ ;
j-- ;
break;
}
}
For(i<j ; i++){
if(Z[j] < Z[i]){
swap(Z[j], Z[i]);
i++ ;
j-- ;
break;
}
}
while(i<=j)
if (Primero < j)
Quicksort(Z, Primero, j)
if (i < ultimo)
Quicksort (Z, i, ultimo)