Q5-28 Find all the def-use pairs for each code fragment given below.

a.
```
x = a + b;
if (x < 20) proc1();
else {
    y = c + d;
    while (y < 10)
        y = y + e;
}
```

b.
```
r = 10;
s = a - b;
for (i = 0; i < 10; i++)
    x[i] = a[i] * b[s];
```

c.
```
x = a - b;
y = c - d;
z = e - f;
if (x < 10) {
    q = y + e;
    z = e + f;
}
if (z < y) proc1();
```

A = 10 , B = 10	X =20 , X<20 = FALSE	1
C = 0 , D = 0	Y = 0	2
E = 1	Y =1	3
	Y < 10 = TRUE	4
	Y = Y + 1 = 2	5

.B

I = 0	I<10 = TRUE	3
A = 2 , B = 3	S = 5	2
I = 0	X[0] = A[0] * B[5]	7
I = 0	I++ , I = 1	1
	I++ , I = 2	4

I=1	I<10 = TRUE	6
I=1	X[1] = A[1] * B[5]	5

.C

A = 1 , B =1	X = 0 , X<10 = TRUE , IF(X<10)	1
C = 2 , D = 1 , E = 1	Y = 1, Q = 1	2
A = 10 , B =10 , F = 1	X = 20 , X<10 = FALSE , IF(Z<Y)	3
C = 2 , D = 1	Y = 0 , IF(Z<Y)	4
	Z = 2	5

۲)

الف)

Coverage Report for model

Table of Contents

Analysis Information

Coverage Data Information

Collected in version	(R2021a)

Model Information

Model version	1.15
Author	smrh1
Last saved	Mon Jan 03 20:03:38 2022

Simulation Optimization Options

Default parameter behavior	tunable
Block reduction	forced off
Conditional branch optimization	on

Coverage Options

Analyzed model	model
Logic block short circuiting	off

Tests

Test	Started execution	Ended execution
Run 1	04-Jan-2022 00:20:49	04-Jan-2022 00:21:55

Summary

ب) با اجرای تست کیس نوشته شده تمامی تست ها پاس میشود .
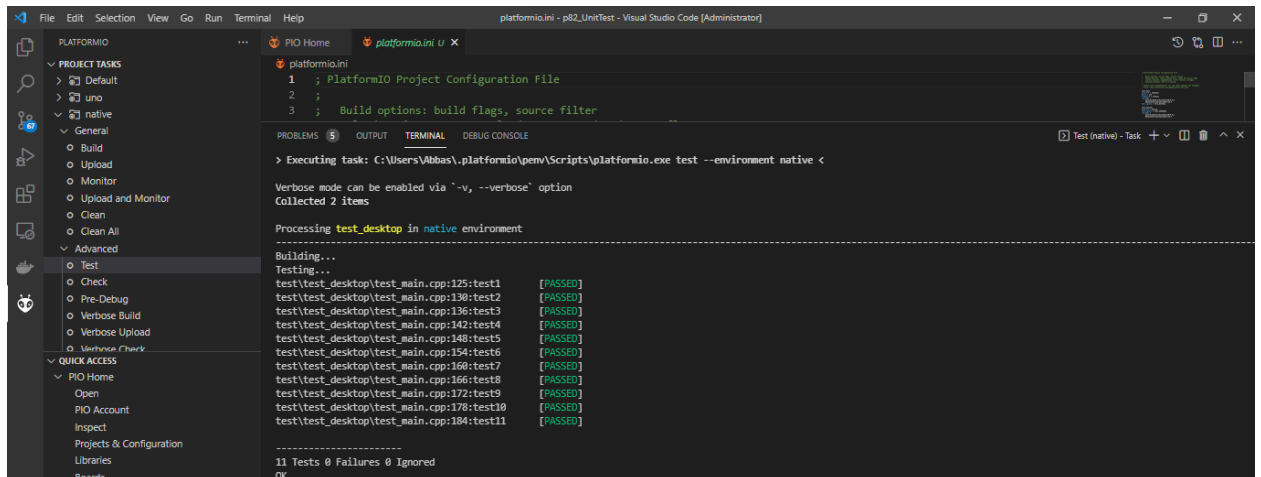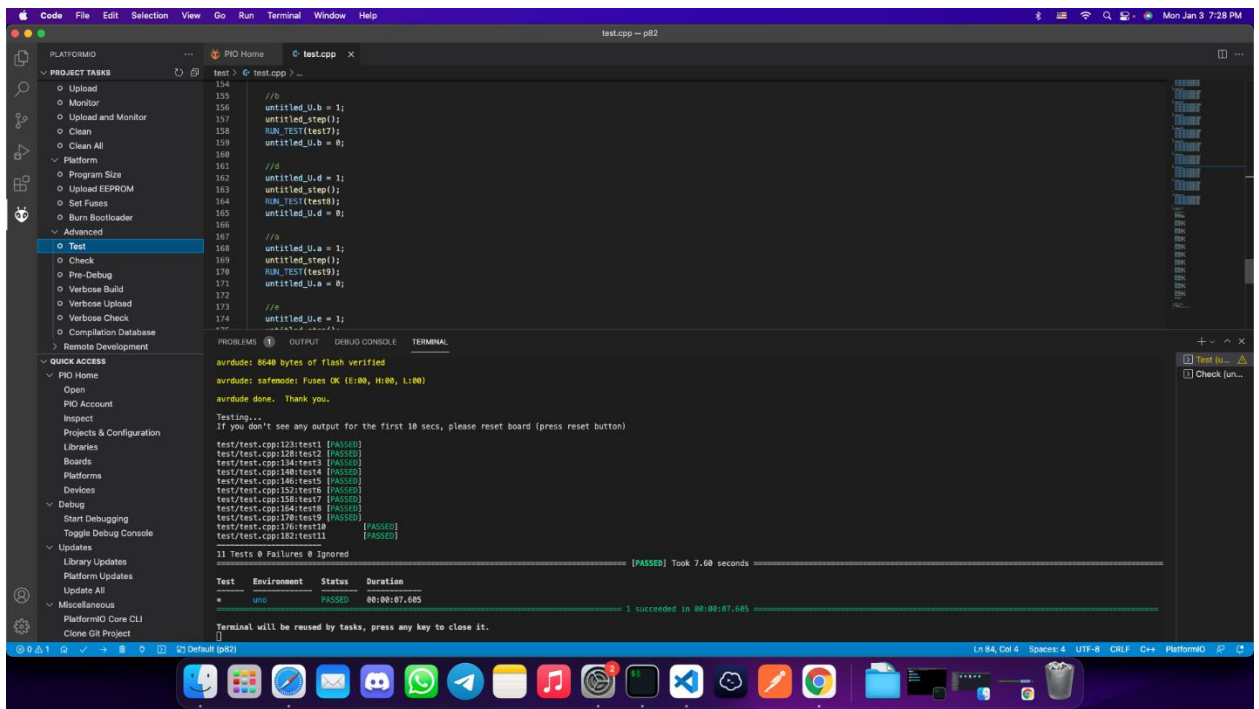
ج) sp=145/20 + 33 + 5*5 = 33+7.25+25 = 65.25