**CHALLENGE 1**

*Use a* ***previous*** *array element*

Look at the bellow code.

int numbers[6] = {1, 2, 3, 4, 5, 6};

for (int i = 1; i < 6; i++) {

numbers[i] += numbers[i - 1];

}

int result = 0;

for (int i = 0; i < 6; i++) {

result += numbers[i];

}

print("%d", result);

**Q1 –** Execute mentally the bellow code:

|  |  |  |
| --- | --- | --- |
| i | numbers | result |
| START PROGRAM | | |
| ? | {1, 2, 3, 4, 5, 6} | ? |
| RED LOOP | | |
| 1 | 1 3 3 4 5 6 | ? |
| 2 | 1 3 6 4 5 6 | ? |
| 3 | 1 3 6 10 5 6 | ? |
| 4 | 1 3 6 10 15 6 | ? |
| 5 | 1 3 6 10 15 21 | ? |
| GREEN LOOP | | |
| 0 | 1 3 6 10 15 21 | 1 |
| 1 | 1 3 6 10 15 21 | 4 |
| 2 | 1 3 6 10 15 21 | 10 |
| 3 | 1 3 6 10 15 21 | 20 |
| 4 | 1 3 6 10 15 21 | 35 |
| 5 | 1 3 6 10 15 21 | 56 |

**Q2 –** What is the **output** of the program?

56

**Q3 –** Execute the code mentally the code : (check the red change)

int numbers[6] = {1, 2, 3, 4, 5, 6};

for (int i = **0**; i < 6; i++) {

numbers[i] += numbers[i - 1];

}

**Q2 –** Explain what’s happened

Undefined behavior because we start the loop with 0 and during the loop there’s number[I - 1] and our array start from 0 not -1