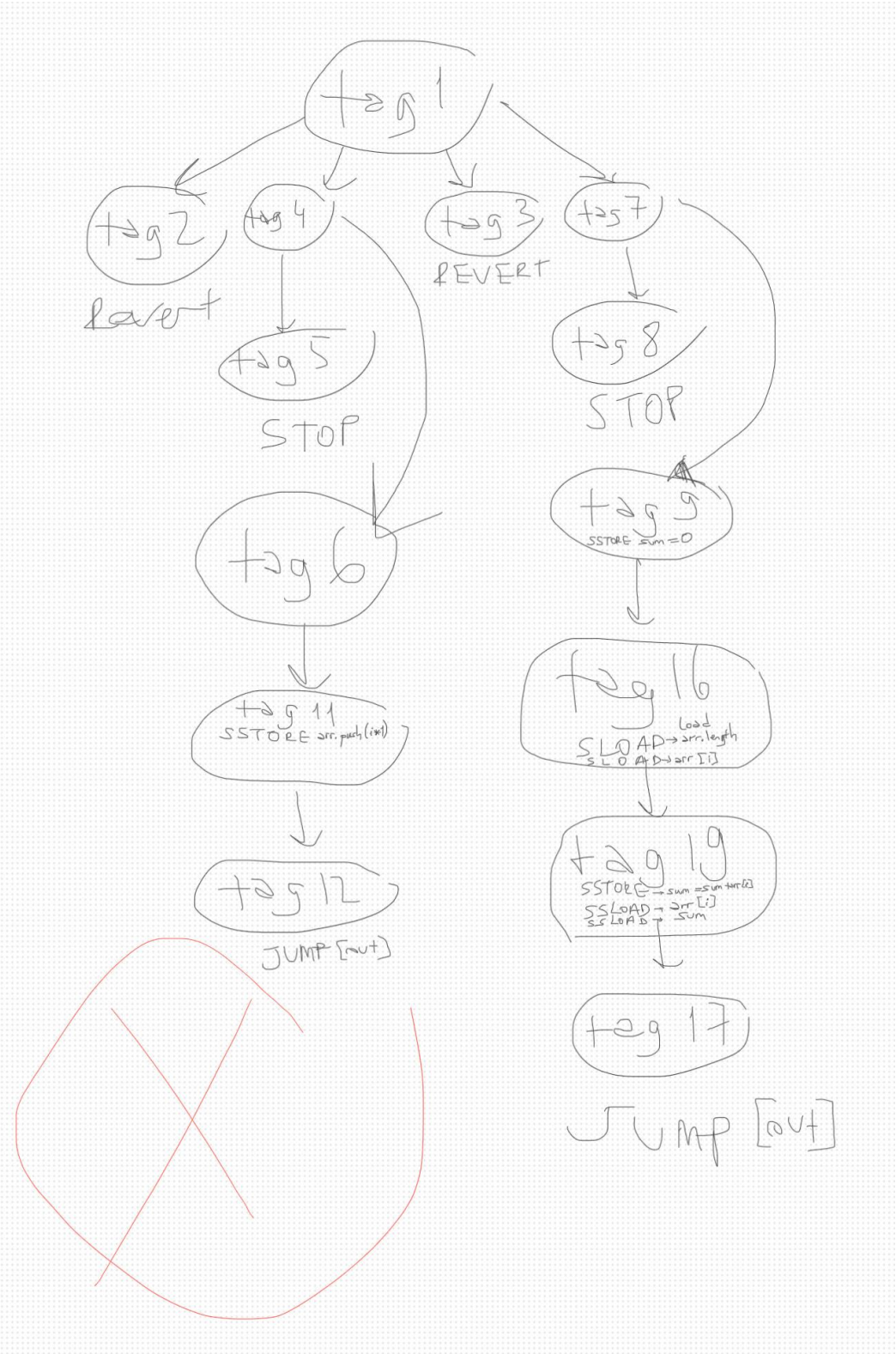
INTRO TO BLOCKCHAIN – ASSIGNMENT 6

GROUP 22 – ARDA HARMAN

1. The assembly txt file can be found from the zip file

2 & 3. Answer for exercise 2 and 3 is below at this image



4. Here I implemented an improved version of the given code

Given code:

```
// SPDX-License-Identifier: GPL-3.0

pragma solidity ^0.4.26;
contract lab6 {
uint[] arr;
uint sum;
function generate(uint n) external {
for (uint i = 0; i < n; i++) {
arr.push(i*i);
}
}
function computeSum() external {
sum = 0;
for (uint i = 0; i < arr.length; i++) {
sum = sum + arr[i];
}
}
}
```

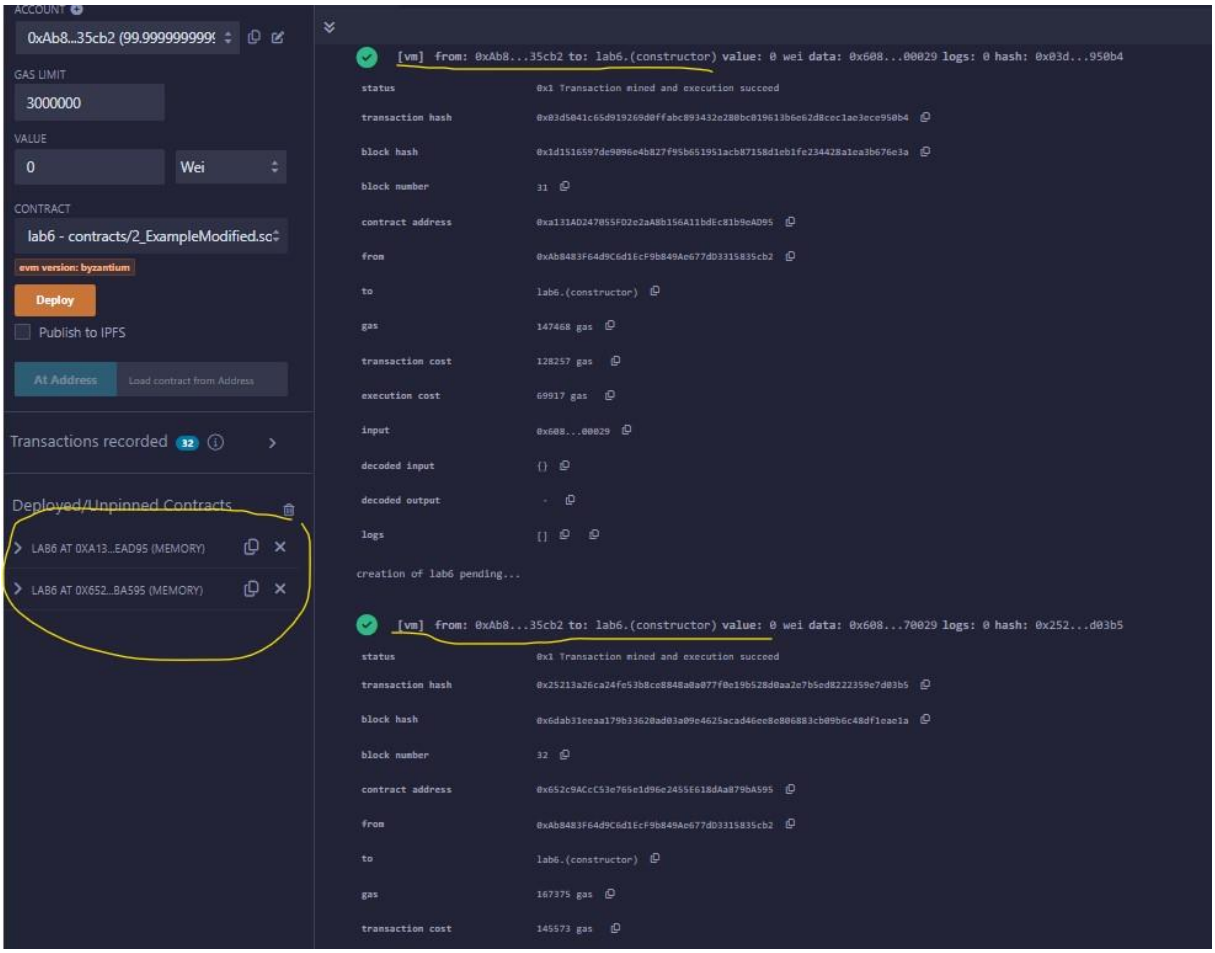
Improved version:

```
// SPDX-License-Identifier: GPL-3.0

pragma solidity ^0.4.26;
contract lab6 {
uint[] arr;
uint sum;

function generate(uint n) external {
for (uint i = 0; i < n; i++) {
arr.push(i*i);
}
}
function computeSum() external {

    uint[] memory tempArr = arr;

    uint tempSum = 0;


    for (uint i = 0; i < tempArr.length; i++) {
        tempSum += tempArr[i]; // Update the sum after the loop completes
    }
    sum = tempSum; // Update the sum after the loop completes
}
}
```

I improved by “using temporary variables” instead of accesing variables from storage

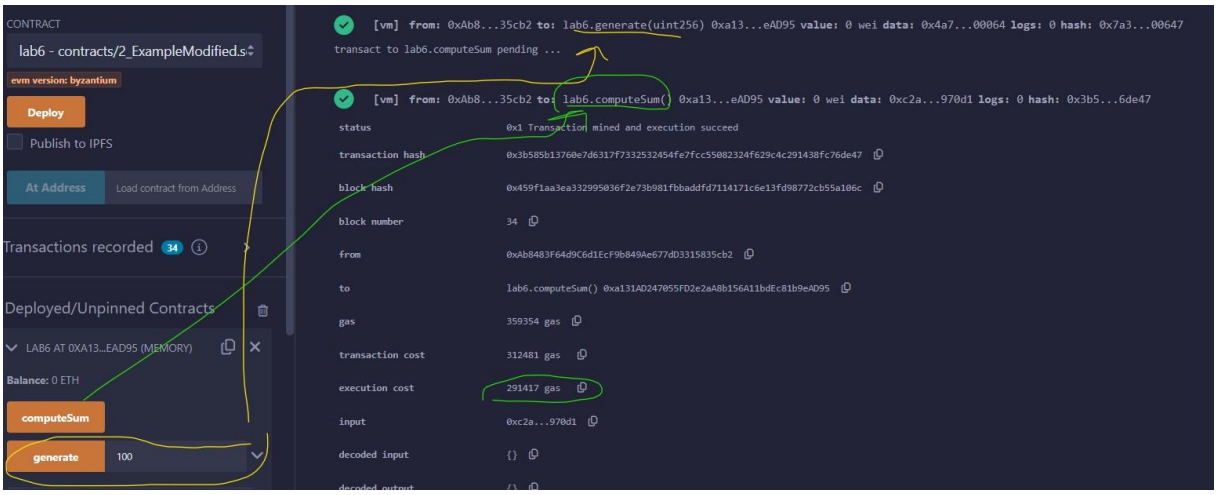
For this I used “tempArr” and “tempSum”

Deploying contracts



Here is the different execution costs:

1st version: 291417



2nd (improved version) version: 253440