

Course: Laboratory Practice III
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Course Code: 410246
Class: BE-4
Batch: R4

Assignment No: 15

Code:

```
//SPDX-License-Identifier: MIT
pragma solidity ^0.6;
contract Student_management{
    struct Student{
        int stud_id;
        string Name;
        string department;
    }

    Student[] Students;

    function add_stud(int stud_id, string memory Name, string memory department) public{
        Student memory stud = Student(stud_id, Name, department);
        Students.push(stud);
    }

    function getStudent(int stud_id) public view returns(string memory, string memory){
        for(uint i=0; i< Students.length; i++)
        {
            Student memory stud = Students[i];
            if(stud.stud_id == stud_id){
                return(stud.Name, stud.department);
            }
        }
        return("Student Information not found...!", "Not Found");
    }
}
```

OUTPUT:

✓ [vm] from: 0x5B3...eddC4 to: Student_management.(constructor) value: 0 wei data: 0x608...c0033 logs: 0
hash: 0xfa5...f21d9

status true Transaction mined and execution succeed

transaction hash 0xfa591e58975583f54477867bfdc5c9233d95be71d11b7fbc1661d88d3f3f21d9 ⓘ

from 0x5B38Da6a701c568545dCfcB03FcB875f56beddC4 ⓘ

to Student_management.(constructor) ⓘ

gas 471422 gas ⓘ

transaction cost 409932 gas ⓘ

execution cost 409932 gas ⓘ

input 0x608...c0033 ⓘ

decoded input {} ⓘ

decoded output - ⓘ

✓ [vm] from: 0x5B3...eddC4 to: Student_management.add_stud(int256,string,string) 0xD4F...2cbee value: 0 wei
data: 0xbfc...00000 logs: 0 hash: 0xcb0...6b4a7

status true Transaction mined and execution succeed

transaction hash 0xcb088c06147b1eb68dfe4bd7db7985453d9c491ca15b6a784007f96ad2f6b4a7 ⓘ

from 0x5B38Da6a701c568545dCfcB03FcB875f56beddC4 ⓘ

to Student_management.add_stud(int256,string,string) 0xD4Fc541236927E2EAf8F27606b07309C1Fc2cbee ⓘ

gas 109894 gas ⓘ

transaction cost 95560 gas ⓘ

execution cost 95560 gas ⓘ

input 0xbfc...00000 ⓘ

decoded input {
 "int256 stud_id": "1230",
 "string Name": "John",
 "string department": "Computer Engineering"
} ⓘ

decoded output {} ⓘ

call to Student_management.getStudent

CALL [call] from: 0x5B38Da6a701c568545dCfcB03FcB875f56beddC4 to: Student_management.getStudent(int256) data: 0xce5...004ce

from 0x5B38Da6a701c568545dCfcB03FcB875f56beddC4 ⓘ

to Student_management.getStudent(int256) 0xD4Fc541236927E2EAf8F27606b07309C1Fc2cbee ⓘ

execution cost 39950 gas (Cost only applies when called by a contract) ⓘ

input 0xce5...004ce ⓘ

decoded input {
 "int256 stud_id": "1230"
} ⓘ

decoded output {
 "0": "string: John",
 "1": "string: Computer Engineering"
} ⓘ

logs [] ⓘ ⓘ

Conclusion:

I studied about smart contract and concept such as array, fallback and how to write and execute it using remix ide.