

Practical 3 Code -

//SPDX-License-Identifier:MIT

pragma solidity >=0.5.0 <0.9.0;

```
contract EtherWallet{
    address payable public owner;

    constructor(){
        owner = payable(msg.sender); // by default msg.sender is not payable so we cast it
    }

    function Withdraw(uint _amount) public {
        require(msg.sender == owner, "Only the owner can invoke this function");
        payable(msg.sender).transfer(_amount);
    }

    function getBalance() external view returns(uint){
        return address(this).balance; // return balance in this contract
    }

    receive() external payable {} // default function came after sol version 0.6.0 that allows
contract to receive funds
}
```

Practical 4 Code -

//SPDX-License-Identifier:MIT

pragma solidity >=0.4.0<=0.9.0;

```
contract StudentRegister{

    address public owner;

    mapping (address=>student)students;

    constructor() {
        owner=msg.sender;
    }

    modifier onlyOwner {
        require(msg.sender==owner);
        _;
    }
}
```

```

struct student{

    address studentId;
    string name;
    string course;
    uint256 mark1;
    uint256 mark2;
    uint256 mark3;
    uint256 totalMarks;
    uint256 percentage;
    bool isExist;

}

function register(address studentId,string memory name,string memory course,uint256
mark1,uint256 mark2,uint256 mark3) public onlyOwner {

    require(students[studentId].isExist==false,"Fraud Not Possible,student details already
registered and cannot be altered");

    uint256 totalMarks;
    uint256 percentage;

    totalMarks=(mark1+mark2+mark3);

    percentage=(totalMarks/3);

    students[studentId]=student(studentId,name,course,mark1,mark2,mark3,totalMarks,percentage,
true);
}

function getStudentDetails(address studentId) public view returns (address,string
memory,string memory,uint256,uint256){

return(students[studentId].studentId,students[studentId].name,students[studentId].course,stude
nts[studentId].totalMarks,students[studentId].percentage);
}
}

```