

Name: Abdullah waqar#5101

Question: 1

```
function add() public pure returns (uint) {  
    uint a = 7;  
    uint b = 9;  
    return a - b;  
}
```

Explanation and Correct code:

uint is unsigned integer so it can handle only non-negative numbers when we subtract 7 from 9 we get -2 which is negative number so in order to store negative number we can use int instead of uint.

```
function add() public pure returns (int) {  
    int a = 7;  
    int b = 9;  
    return a - b;  
}
```

Question: 2

```
function divide() public pure returns (uint) {  
    uint a = 19;  
    uint b = 9;  
    return a / b;  
}
```

Explanation:

Output of the divide function is 2 because uint only stores integer values not decimal when we divide 19 by 9 we get 2.1 which is decimal number.

Question: 3

```
function transfer(address receiver , uint numberOfTokens) public returns (bool) {  
    require(numberOfTokens <= balances[receiver]);  
    balances[msg.sender] = balances[msg.sender] - numberOfTokens;  
    balances[receiver] = balances[receiver] + numberOfTokens;  
}
```

```
    return true;
}
```

Explanation and Correct code:

Number of tokens should be less than Msg.sender balance not from receiver balance because sender is sending the tokens so sender balance should be check.

```
function transfer(address receiver , uint numberOfTokens) public returns (bool) {
    require(numberOfTokens <= balances[msg.sender]);
    balances[msg.sender] = balances[msg.sender] - numberOfTokens;
    balances[receiver] = balances[receiver] + numberOfTokens;
    return true;
}
```

Question: 4

```
uint private paperChecked = 1;
function check() private {
    require(paperChecked < 10);
    paperChecked++;
}
```

Explanation:

Function can only be called once because in the function definition function is not calling itself again it is just incrementing the paperChecked variable.

Question 5:

Explain the error in the following function. How can it be fixed?

```
string _totalSupply=0;

function mint(address account,uint256 amount) onlyOwner public {

    require(account!=address(0));

    _totalSupply+=amount;

}
```

Explanation and Correct code:

Total supply is string we cannot add amount whose data type is uint256 in total supply so we have to change total supply data type to unit256 in order to run this code.

```
Uint256 _totalSupply=0;
```

```
function mint(address account,uint256 amount) onlyOwner public {
```

```
    require(account!=address(0));
```

```
    _totalSupply+=amount;
```

```
}
```