

# syedowaisahmed222#6950

## Syntax Errors:

- a. What will be the output of the following function? If there is a problem in it, explain the solution.

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

Answer)

This functions returns signed int, not uint !

Correct Form:

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

- b. What will be the output of the following function? If there is a problem in it, explain the solution.

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

Answer)

Output will be 1.

Fixed point numbers are not fully supported by Solidity yet.  
div() function from ABDK Math 64.64 library can be used.

c. Debug the following function and explain how it can be fixed.

```
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;  
}
```

Answer)

In 2<sup>nd</sup> line required statement, balance of sender will be checked!

Correct form:

```
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;  
}
```

d. How many times can this function be called?

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

Answer)

9 times !

d. 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;  
}
```

Answer)

1<sup>st</sup> line → string replace with uint !

Correct form:

```
uint _totalSupply = 0;  
function mint(address account, uint256 amount) onlyOwner public {  
    require(account != address(0));  
    _totalSupply += amount; }
```