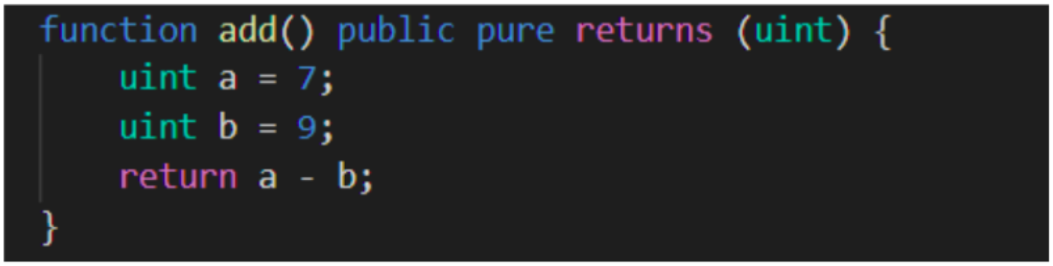
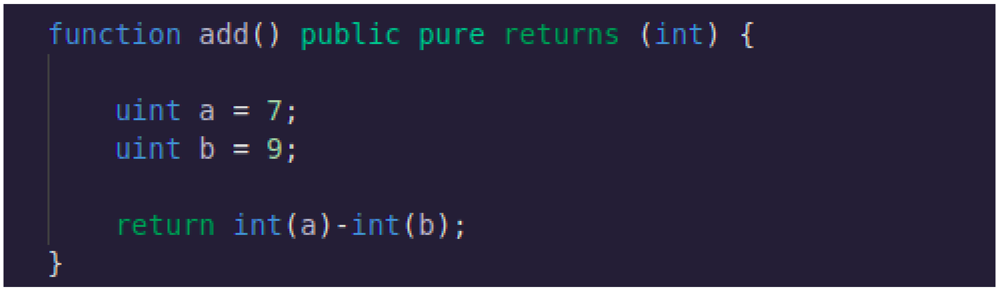
Syntax Errors:

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 a:



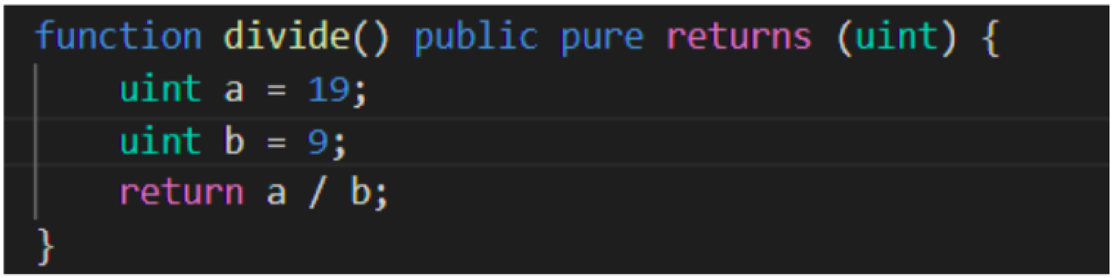
```
function add() public pure returns (int) {

    uint a = 7;
    uint b = 9;

    return int(a)-int(b);
}
```

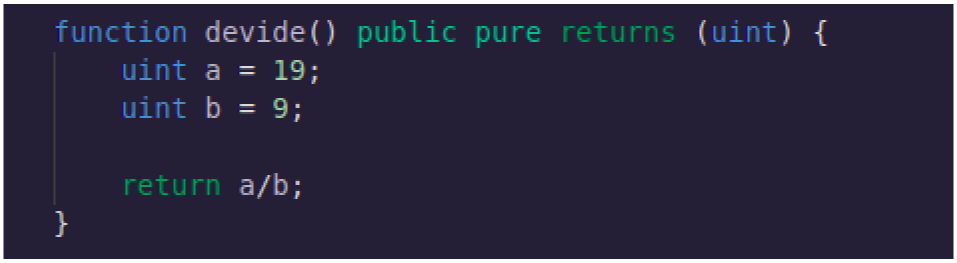
The subtraction of 7-9 will not return a uint267 but a signed int hence we need to typecast both the return type and the variables.

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 b:

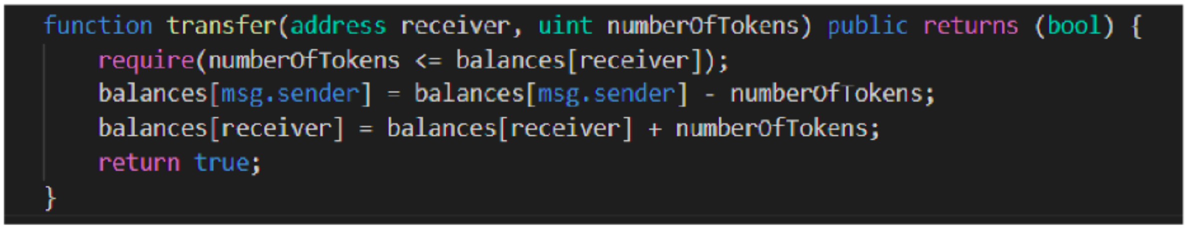


```
function devide() public pure returns (uint) {
    uint a = 19;
    uint b = 9;

    return a/b;
}
```

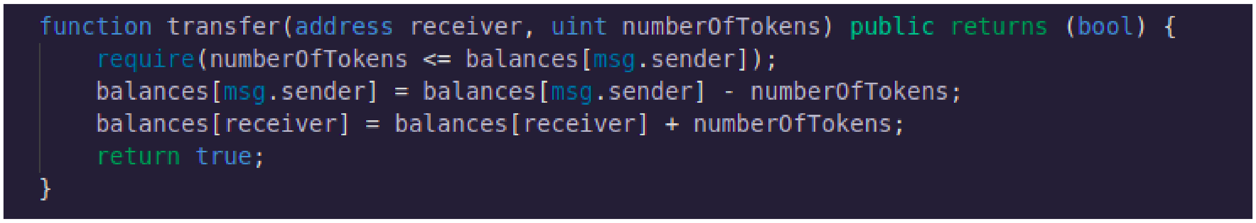
No problem found, however the answer would be a int but not a float

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;
}
```

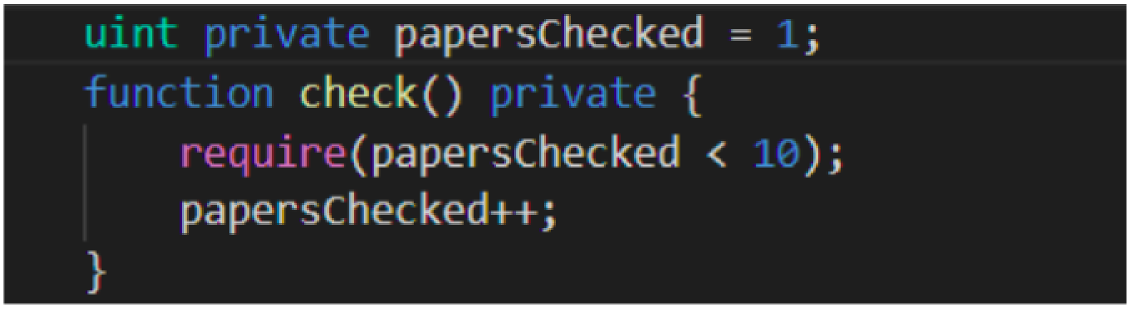
Answer c:



```
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;
}
```

The require should be checked against msg.sender but not the receiver.

d. How many times can this function be called?

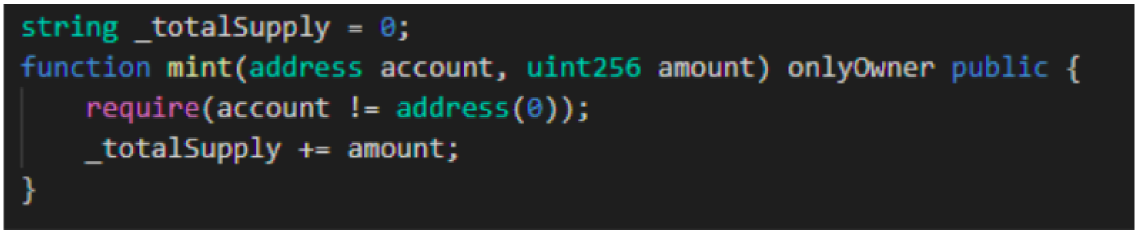


```
uint private papersChecked = 1;
function check() private {
    require(papersChecked < 10);
    papersChecked++;
}
```

Answer d:

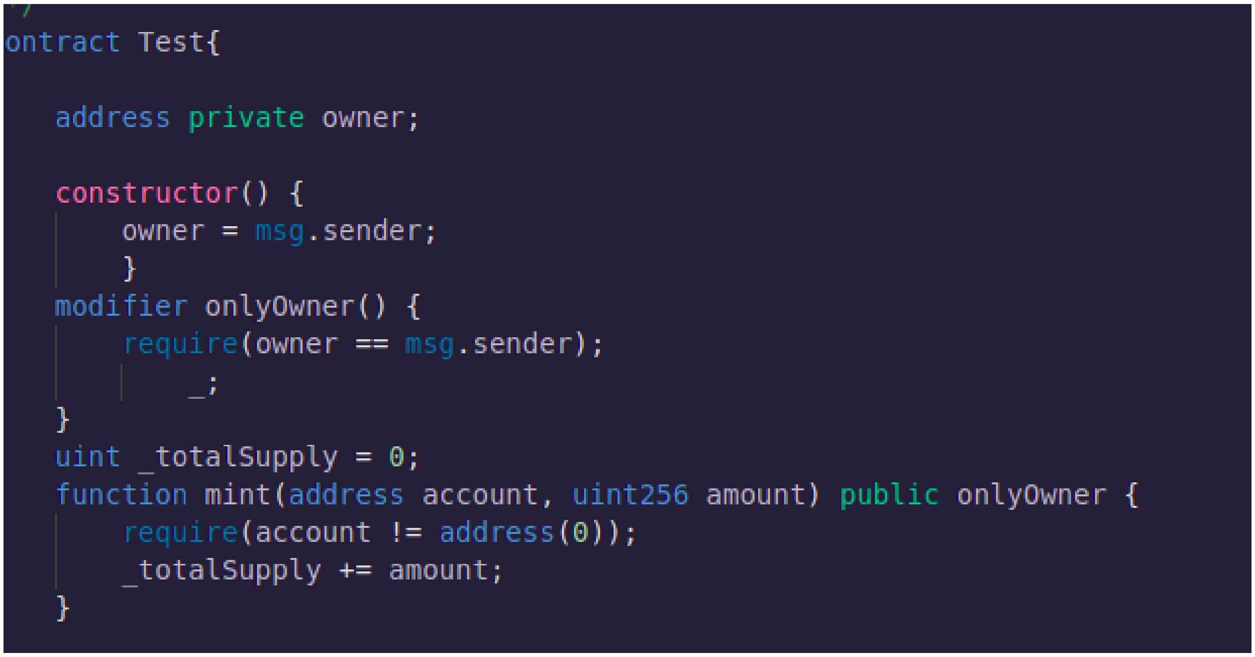
9 times

e. 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 e:



```
*/
ontract Test{

   address private owner;

   constructor() {
       owner = msg.sender;
       }
   modifier onlyOwner() {
       require(owner == msg.sender);
           _;
   }
   uint _totalSupply = 0;
   function mint(address account, uint256 amount) public onlyOwner {
       require(account != address(0));
       _totalSupply += amount;
   }
```

- _totalSupply should be a type uint
- Declaration of the modifier onlyOwner