

Homework 5 Answer

1. The codecopy overwrites the first memory slots including the free memory pointer
2. We could remove the free memory pointer initialisation code since it is not used
3. You can in Remix by sending wei as you deploy the contract
- 4.

```
function add() pure public returns (uint256) {  
    assembly{  
        let ptr := mload(0x40)  
        let free_mem := add(ptr, 0x20)  
        let result := add(0x07, 0x08)  
        mstore(free_mem, result)  
        return(free_mem, 0x20)  
    }  
}
```

5. It is used in delegate calls and proxy contracts and upgradable contracts