Contract Address

- Any contract has its own **unique address** that is **generated at deployment.**
- The contract address is generated **based on the address of the creator of the contract and the no. of transactions** of that account (nonce). It can’t be calculated in advance.
- Address is a variable type and has the following members:
  - balance
  - transfer(): should be used in most cases as it's the safest way to send ether
  - send(): is like a low-level transfer(). If execution fails the contract will not stop and send() returns false;
  - call(), callcode(), delegatecall()

Payable functions and contract balance

- A smart contract can receive ETH and can have an ETH balance **only if there is a payable function** defined
- A contract receives ETH in 2 ways:
  - By calling a payable function and sending ETH with that transaction.
  - Just by sending ETH to the contract address by an EOA account, if the contract has a fallback payable function defined. The payable fallback function is a function without name but payable. The fallback function **can't have arguments and can't return. There is only one.**
  - The ETH balance of the contract is in possession of anyone who can call the transfer() built-in function