HIDVesting

HIDVesting.sol contract is about vesting which means a certain amount of the tokens are set aside for a certain period of time that are allocated as part of funding a new project and a part(payOutPercentage) of it is locked for a period of time (cliff period), and then released in percentages on regular basis like monthly/quarterly/annually(payOutInterval) depends on the project perspective. Once the cliff period is done the payOutPercentage is released on payOutIntervals to the project Owner address (beneficiary).

Constructor: In the constructor the details are the token that is being given as part of vesting (_token), project owner address(_beneficiary), project start Time (_startTime), _cliffDuration, _waitDuration(waiting period is after the cliffPeriod), percentage of tokens being locked(_payOutPercentage), release schedule(_payOutInterval) are taken as inputs to create a smart contract.

Function **getBenificiaryVestingSchedules**: this function gets the whole schedule of the beneficiary VestingSchedule details and the unlock time and unlock percentage

Function **getBeneVestingDetails**: this function gets the array with the details of the beneficiary Vesting details like No. of vesting Periods, total unlocked Amount and last unlocked time.

Function **release**: this function updates the state of the Vesting by checking some pre reuired conditions

Function **getReleasableAmount**: this function gets the details of the totalUnlockedAmount form the Vesting struct.

Function **getVestedAmount**: this function gets the totalAmount that is locked when the vesting contract has started.

Summary:
Bug 1. Overflow and underflow need to use safeMath as we are using division for numberOfPayouts calculations.
Bug 2. In constructor when looping the numberOfPayouts it is giving an error.