REQ 5

**UML Diagram**

Diagram

Description automatically generated

**Justifications and further explanation of classes & methods.**

WALLET  
1. not portable,  
2. added to player's inventory in player's constructor  
3. create 3 instances of tradeAction (with trade amount), one for each of wrench, SuperMushroom & Powerstar & add these tradeAction to list of allowable actions for the item  
4, attributes  
    - int totalBalance  
    - arraylist of coins  
5. methods  
    - getBalance()  
    - addCoin() to add coin to its arraylist  
    - setBalance()

PLAYER  
1. have a wallet instance which references the wallet  
2. have a getWallet() instance to return the wallet item

COIN  
1. can be picked up from ground but cannot be dropped - so override abstract item class's getDropItemAction method,  
2. when picked up from ground & added to inventory it must be instead added to the wallet INSTEAD of the actor's inventory, so modify item class's getPickItemAction() method such that it instantiates a obj of addToWalletAction class instead & returns it  
3. addToWalletAction extends pickUpItemAction class just that the EXECUTE function needs to be changed to access the wallet & add the coin item into the actor's wallet item  
2. attributes  
- int value

TRADEACTION  
1. attrubutes:  
- item itemToTrade  
- Toad toad  
2. methods:  
- execute method:  
    uses player, its wallet, and Toad -> to trade itemToTrade with Toad,  
    reduces wallet balance of player,  
    removes coins from player's wallet arraylist,  
    if walletbalance not enough, print the not enough message in console

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**Justifications and further explanation of classes & methods –**

TOAD  
1. methods  
    - sayMonologue()  
2. attributes  
    - public static final arraylist of monologues

TALKWITHTOADACTION  
1. attrubutes:  
- item itemToTrade  
- String hotkey (for menu description command)  
2. methods:  
- execute method:  
    pick & print a monologue based on player's inventory,  
        if player's inventory has wrench: either sentence 2,3,4  
        if powerstar effect is there: either sentence 1, 3, 4  
        else randomly pick from 1,2,3,4  
3. create instance of TalkWithToadAction in every Ground item's construtor & add it to Ground item's allowable actions