Item Occurance **Problem** 1 Initial compile in BlueJ Game.java uses unchecked or unsafe operations recompile with -Xlint: unchecked for details 2 General Commenting Multiple methods are not well commented, the purpose or functionality of the code is not described 3 Game.createRooms() sets the player's current room using a class variable of the Game class, despite the current room being a property of the player 4 class Game -> printWelcome() System.out.println() used instead of \n where preceeding statement is also a print statement 5 class Game -> printWelcome() overly used if conditionals; increases file size and difficult to read 6 class Game -> { printWelcome(), goRoom(), look() } if conditional over currentRoom.exit to print direction is duplicated three times 7 class Game -> { processCommand(), quit() } method takes an argument from the class command, but is located in class Game 8 class Game -> processCommand() Readability - conditional checking fo unknown commands returns false 9 class Game -> printHelp() when typing "help" into processCommand(), the correct string of commands in CommandWords.validCommands[] is not called by printHelp(); instead a string is outputted the user has entered take, go command without the argument for 10 Game.take(), .goRoom() what, and asks user 'take what?', 'go where?' 11 Game.Game() { createRooms() } generally the fields should be defined at the top of the constructor, followed by any functions. Plus the createRooms is an instantiation process and is only used once. There is no need to createRooms at any other time. 12 Game.printWelcome() code is printed from a hard-coded string, which does not allow internalisation 13 Game.processCommand() same problem with hard-coded stings as point 12 14 Game.printHelp() same problem with hard-coded stings as point 12 also printHelp is almost a redundant function as all print functions could be one function or class that gets called with a variable to reference the desired output 15 Game.printHelp() not printing all the commandWords as is a hardcoded string 16 Game { .processCommand(), .goRoom() } using an if conditional statement that takes strings as inputs for comparison, hard-coded and slow 17 Game.take() if statement used without an else condition where it could have been used instead of using another if conditional 18 Game.drop() variable i is not understandable of what it means 19 Game.give() command.hasThirdWord is always command.hasSecondWord 20 class Parser -> getCommand() code is realloated as a new object for parsing, code duplication 21 class Parser -> getCommand() fields wordX are not representing the data stored 22 class CommandWords method isCommand does not check if input String is a String 23 CommandWords.isCommand() for loops through an array 24 CommandWords is inheriently part of Command class 25 Command.Command built for three input words, need to allow extendability 26 Command.Command this.thirdWord is copying secondWord for no apparent reason 27 command {.hasSecondWord .hasThirdWord} provides no extra functionality as using command {.getSecondWord .getThirdWord} 28 Parser.Parser() instantiatng commands with empty constructor in CommandWords 29 Parser.getCommand() tokenizer is parsing an array of a string rather than scanning the string for the next word 30 Parser.getCommand() only takes up to three words, it checks for less than three words, but not more than, plus no room for extendability 31 Parser.getCommand() method is reading commands from user input, but is located in

parser,

32 class Room class Room has public fields that should not be accessible outside of its class 33 Room (fields) Room fields are public and can be modified by anyone 34 Room (fields) the exits are only north, east, south, west and does not allow 35 Room.addItem() no error checking on parameters to see if containing the correct type of variable 36 Room.character in Game.give() Character takes default value null, but is used in Game.give()  $\Rightarrow$ throws NullPointerException 37 Room.addItem() only allows room to have one item 38 Room.xItem() not easy or efficient to identify an item from its description, plus a room could share the same description 39 Room.containsItem only works if an item has a weight not equal to zero