National Centre for Computing Education

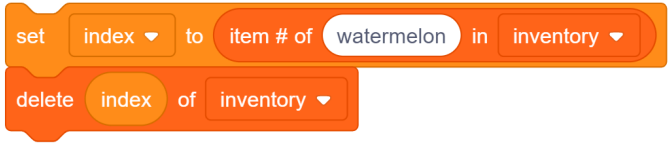
Raspberry Pi

Investigate the list: Solutions

You will need:

- This link to the Scratch project: ncce.io/legendofscratch

Step	Instructions	Questions	Your answers ▽
1	• Click on the goblin sprite to view the code • Press the **Green flag** • Read what the goblin has to say	What is currently being held in the 'inventory' list?	Nothing, it is empty.
2	• Walk towards the goblin • Read what the goblin has to say • Look at the code for the goblin	What needs to be in the inventory list for the goblin to give you a diamond?	An apple
3	• Click on the apple sprite to view the apple code • Walk to the apple (don't collect any other items along the way)	What happens to the inventory list when Scratch touches the apple?	The word apple appears in the list.

4		Write down the piece of code that is used to add apple to the inventory list.	Add apple to inventory.
5	• Click on the monkey sprite to view the code • Walk to the monkey (don't collect any other items along the way)	What does the monkey say when you touch it?	"I really love watermelon".
6		What item needs to be in your inventory for the monkey to say "Thanks for the watermelon!"	The watermelon
7	• Click on the watermelon sprite to view the code • Walk to the watermelon (don't collect any other items along the way)	Where does the item watermelon appear in the inventory list?	Watermelon is at item number 2 and is underneath the apple.
8	• Click on the monkey sprite to view the code • Walk to the monkey (don't collect any other items along the way)	What has happened to the watermelon item in the inventory list?	It has been deleted from the list.
9	• Find this block of code in the monkey sprite: 	This block of code does two things. It checks for the index location of the watermelon and then it deletes the item that is in that location. What was the list item number for the watermelon?	2

10		Where was the index number held for this block of code to work?	In the item variable.
11	• Click on the goblin sprite to view the code • Walk to the goblin (don't collect any other items along the way)	What is now being held in the inventory list?	The diamond
12		This block of code does two things. Describe those two things.	It checks for the list item of the apple and then replaces the item at that location with the diamond.
13	• Click on the present sprite to view the code • Walk to the present	Describe what happens when Scratch touches the present.	The present disappears and the present item is added to the inventory list at location number 2.
14		Which items are now in the inventory list?	The diamond and the present.
15	• Click on the centaur sprite to view the code • Walk to the centaur	What condition needs to be true for the player to go to the next level?	There needs to be a present and a diamond in the inventory but not the watermelon.
16	• Press the **Green flag** to restart the game • Collect the apple, diamond, present, and watermelon (don't give it to the monkey) • Walk to the centaur	What does the centaur say when you have the watermelon in your list?	He says "I cannot eat watermelon. You cannot move until I have the items".
17	• Click on the cake sprite to view the code	What actions does the cake sprite currently do?	It is shown when the **Green flag is clicked** and it hides when it goes to the next level.

18	• Modify the cake block	The cake is needed for the next level. Using the code from the apple sprite as a guide, add the cake to the inventory when it is touching Scratch the cat.	Screenshot your code here:

Explorer tasks: Modifications

1. Modify the centaur code to ensure that the cake is required before the player is sent to the next level.
2. Using the gift code as a guide, create another sprite that will perform the same tasks, e.g. disappear and add to the list when touching Scratch.
3. Using the monkey code as a guide, create another sprite that will delete that list item (from Task 1) from the inventory.
4. Using the goblin code as a guide, create another sprite that will swap an additional item with Scratch the cat.

Resources are updated regularly — the latest version is available at: ncce.io/tcc.

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