First of all I wanted to say that up until now I have never dealt with an inventory and everything included in the game came from my thought process.

Personally, for me this task was quite hard for the time that was given and I decided my number one priority is adding all of the required technical features even if the visuals are not perfect.

All of the programming was done from scratch with just a few lines copied from stackoverflow or the unity forum.

Shop

Firstly, I needed to create a basic shop and basic characters in order to have a foundation for the buying/selling and inventory system. Designing assets is challenging and time-consuming for me so I went on itch.io and managed to find an asset pack which best fitted what I needed.

The room was made using a tile palette - one grid for the walls (border of the camera) and one for the floor. The desk and decorations are sprites in the asset pack which make the room feel at least a bit whole.

Characters

The characters were also part of the pack. The asset pack came with a character creator(models of the bodies and the clothing) but I chose some premade characters for simplicity since I am working with very little time. I used the premade character animations in the pack.
I used the clothing from the character creator both for the item icons and for visualization in the menu.

Here due to my lack of knowledge in making an inventory I believe I didn't do the parts in the right order and I am sure that there are a lot more structured ways to design the menus.

All of the UI is done by using Unity's UI system.

For all menus I decided to put a model to visualize the player with the selected clothing.

An object called BalanceTracker stores the balance of the player.

The character cannot move while the canvas is active(when any of the menus is open).

Buying Menu

I decided to make the buying menu first as it is the most essential part of the task. (In retrospect I should have made the inventory first).
The items are a UI button with a price, image and name attached as child objects. These items are essentially the way I stored all the components of an item icon and where I stored the values.

I then made textmesh objects to display the player's money and the selected item price. I used the script in the balance textmesh and the button's onClick component to change the selected item, the price and to visualize the outfit on the character.
A "buy" button subtracts the price from the balance, deactivates the bought item and sends its variable (price, image, name) to an inventory item which becomes active.

<u>Inventory Menu (Q)</u>
I placed 6 slots for the items for simplicity with each slot having a deactivated item object. When an item is bought/sold the item object is activated/deactivated.

<u>Equipping</u>
I am not able to use walking animations when the clothes are equipped so when the character equipes an outfit the sprite returns to the default one facing down.
The change of clothes is done by the equip button in the inventory which activates the child object of the player and changes its sprite.

<u>Selling Menu</u>
It is identical to the inventory menu with the difference that the buttons offer more functionality.
It copies the inventory with a script which pairs each slot in the selling menu to a slot in the inventory menu.
If the "sell" button is pressed the item is deactivated from the inventory which in turn is copied by the selling menu.
The selecting function and changing of the balance work the same way as the buying menu.

<u>Dialog Box (E when near counter)</u>
This is how you communicate with the shopkeeper. It activates the selling and buying menus.
It is activated if the player is inside a hitbox in front of the counter.

<u>My thoughts</u>
There are many aspects of this system which could be improved and simplified with knowledge, experience and time. I especially want to redesign how I store the items because it seems inefficient. I believe I did fairly well given the task and the timeframe.
Thank you for the task, it was an interesting project.