

Assignment - Parcel Distribution Center

How the Distribution Center works:

Unsorted parcels enter the distribution center from the left on a conveyor belt. The parcels will pass over a scanner (in the middle of the distribution center) that will identify the parcel. The parcels are identified based on their colour: Blue – International, Green – Domestic and Yellow – Unknown. International parcels will move up from the scanner onto a conveyor belt. Domestic parcels will move right from the scanner on a conveyor belt. Unknown parcels will move down from the scanner on a conveyor belt.

How the Scanner works:

When a parcel is touching the scanner a red light turns on to indicate that the scanner is working. The result of the scan is displayed as an image in the bottom left corner of the screen. International parcels will display a plane, domestic parcels will display a truck and unknown parcels will display a question mark. The scanned result will remain until the next parcel enters the scanner.

How the Conveyor belts work:

The conveyor belt bringing the parcel into the Distribution Center has a switch. This switch turns the conveyor belt on and off. When it's on, the switch is green and the parcels move towards the scanner. When it's off, the switch is red and the parcels do not move. You can toggle the switch by pressing the spacebar. All the other conveyor belts only run if there are parcels on them.

Parcel Specs:

There are 20 parcels to be sorted. Their colour is randomly chosen. Their sizes are randomly chosen (height: 20 – 50 pixels, length 20 – 50 pixels, width 10 – 50 pixels). Parcels will be separated by at least 200 pixels.

		Marks		
		1	2	3
Frame Size		The Frame is 1020 by 640		
Parcel	Draw the parcel	Parcel is drawn as a rectangle	Parcel is drawn as a rectangular prism	Parcel is drawn as a rectangular prism with black edges
	Parcel Size and Colour	Parcels are a fixed size AND colour	Parcels are random sizes within the given thresholds OR a random colour	Parcels are random sizes within the given thresholds AND a random colour
	Number of Parcels	There are 20 parcels		
	Space between parcels	There are 200 pixels between parcels		
	Parcel is a class	Yes.		
Scanner	Scanner Light	Turns on when a parcel is being scanned	Is only on when a parcel is being scanned	
	Scanner Result		The correct result is displayed as an image while the parcel is being scanned	The correct result is displayed as an image while the parcel is being scanned AND the image remains until the next parcel is scanned.
	Sorting of Parcels	Some parcels are correctly sorted (Maximum 12 errors)	Most parcels are correctly sorted (Maximum 5 errors)	All parcels are correctly sorted
	Scanner is a class	Yes.		
Conveyor Belt	Conveyor Belt Animation	The conveyor belt is displayed with no animation	The conveyor belt is displayed with limited animations	The conveyor belt is displayed with advanced animations
	Switch	The light on the switch changes when the space bar is pressed.	Conveyor Belt starts/stops when the space bar is pressed.	Conveyor Belt starts/stops AND the light on the switch changes when the space bar is pressed.
	Parcel Movement	When the switch is pressed, the parcels stop moving	When the switch is pressed, the parcels appropriately start or stop	
	International, Domestic and Unknown Conveyor Belts	One of the three run when a parcel is on it	Two of the three run when a parcel is on it	All three only run when a parcel is on it
Encapsulation		Start with 3 marks - 0.5 deduction for each improper/lacking case of encapsulation		

Total

/33