Mechanics						
arm movemant						
number of rotational axis	4 axis	3 axis	2 axis	1 axis		
precision and range of movement	perfect	very good	good	medium		
difficulty of implementation	very difficulty	very difficulty	difficulty	easy		
note:	number of axis is equal to number of nxt motors that will be implemented so more axis means not only more costs but also more programming and problems with electronic connection					
instrument used to catch/lift up object	electromagnes	hand with 2 fingers	hand with 4 fingers	nozzle	fork paw	
efficency	it can lift up only metal objects	object may slip out	it works really good the only limitation is the size of the object	the only limitation is the size and shape of the object	only limitation is the size of the object	
note:	in our project the fork paw was the easiest way to lift up the object from the ground and transver it to sorting assembly as well as it was easier to implement then rest of the options					
powering arm						
motor	lego motor	step motor	DC brush motor	servo motor		
ease of implementation to the build	easy	requires custom mount	requires custom mount	requires custom mount		
crytiria(price[zł])	139 zł	30 zł	24 zł	29 zł		
electronics						
Controling motors and sensors						
micro controler	Arduino Uno	Arduino Mega	Raspberry Pi 4 B	Husarion core 2	fpga	NXT brick
cost	92 zł	160 zł	200 zł	500 zł	62 zł	150
complexity of built and programing	modeare	moderate	hard	moderate	moderate	easy
color recognition	for imige recognition we decided to pick lego color sensor as it was obvious pick for us.					
informatics						
operating system	Ubuntu Desktop 20.04	Raspian Debian	Windows	Ios	NXT brick softwere using robotc (on Windows)	
cost	free	free	officialy paid but can be obtained free	need to buy mac	free if you already have a brick	
availabilyti of software	high	high	fair	low	moderate	
programing language	python	C	C++	Bash		
speed	slow	very fast	fast	no?		
note:	Sticking to lego operationg system for NXT and windows for Robotc (C language) not only translates to resposivenes of a robot but also is the most efective for theoretical future modifications.					
Final components that we have chosen:						