



**Kibo-RPC**  
Kibo Robot Programming Challenge

# KiBobo

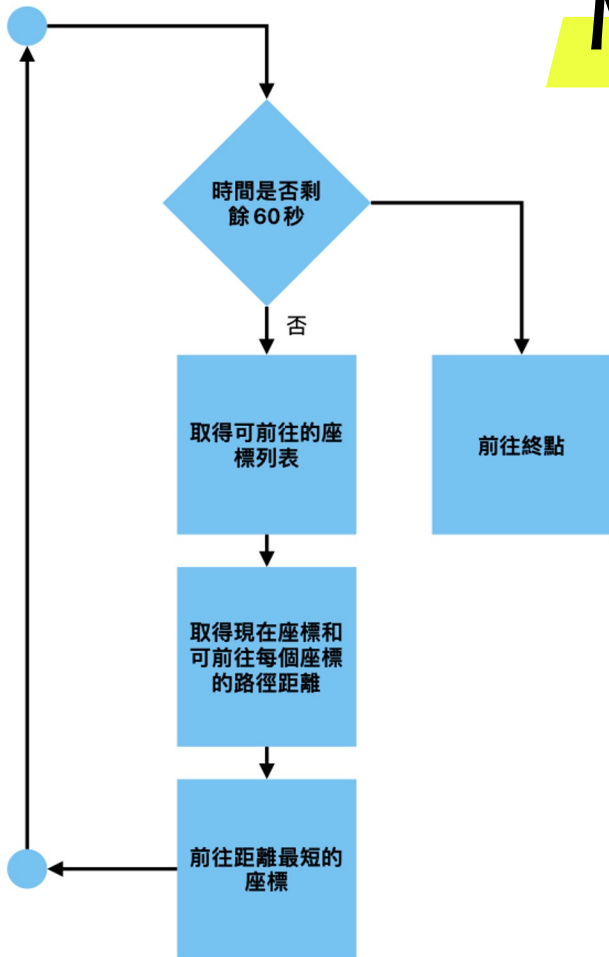
台	科	資	工	大	三	黃	正	鵬
台	科	資	工	大	三	王	新	翌
台	科	電	機	大	二	周	柏	宇
成	大	電	機	大	一	楊	德	冠
成	大	電	機	大	一	徐	士	櫟
成	大	電	機	大	四	林	珮	玉
清	大	電	資	大	一	湯	承	恩



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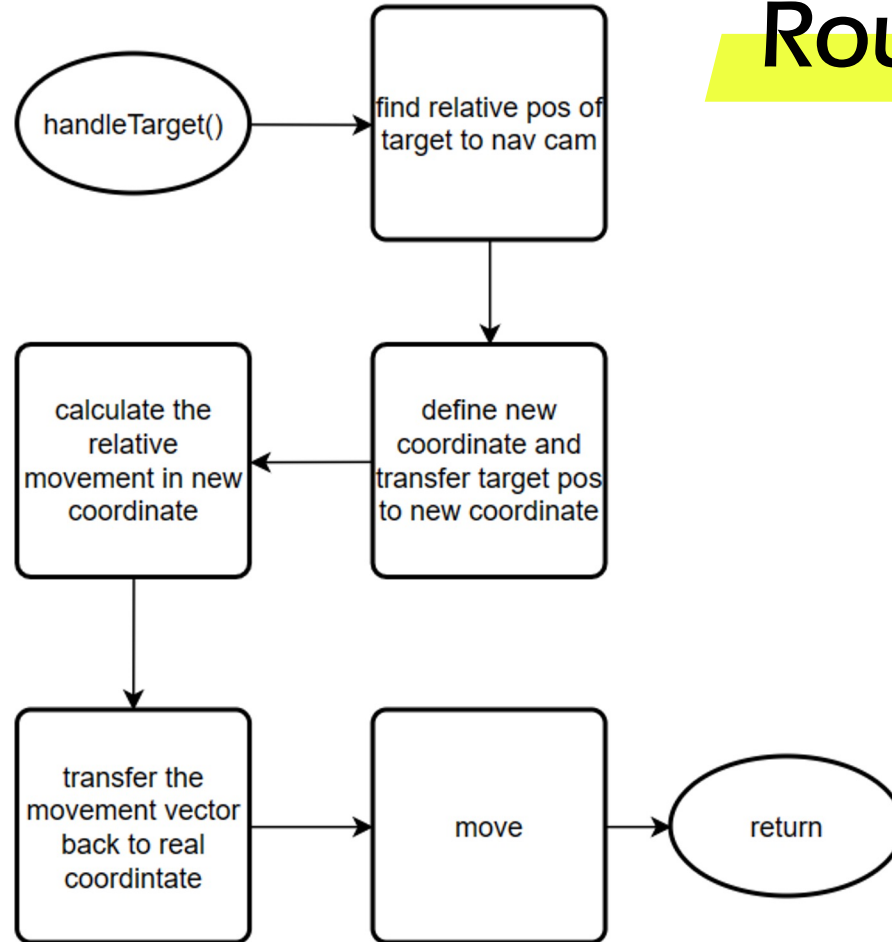
# Main Program

# Main Program





# Route Design



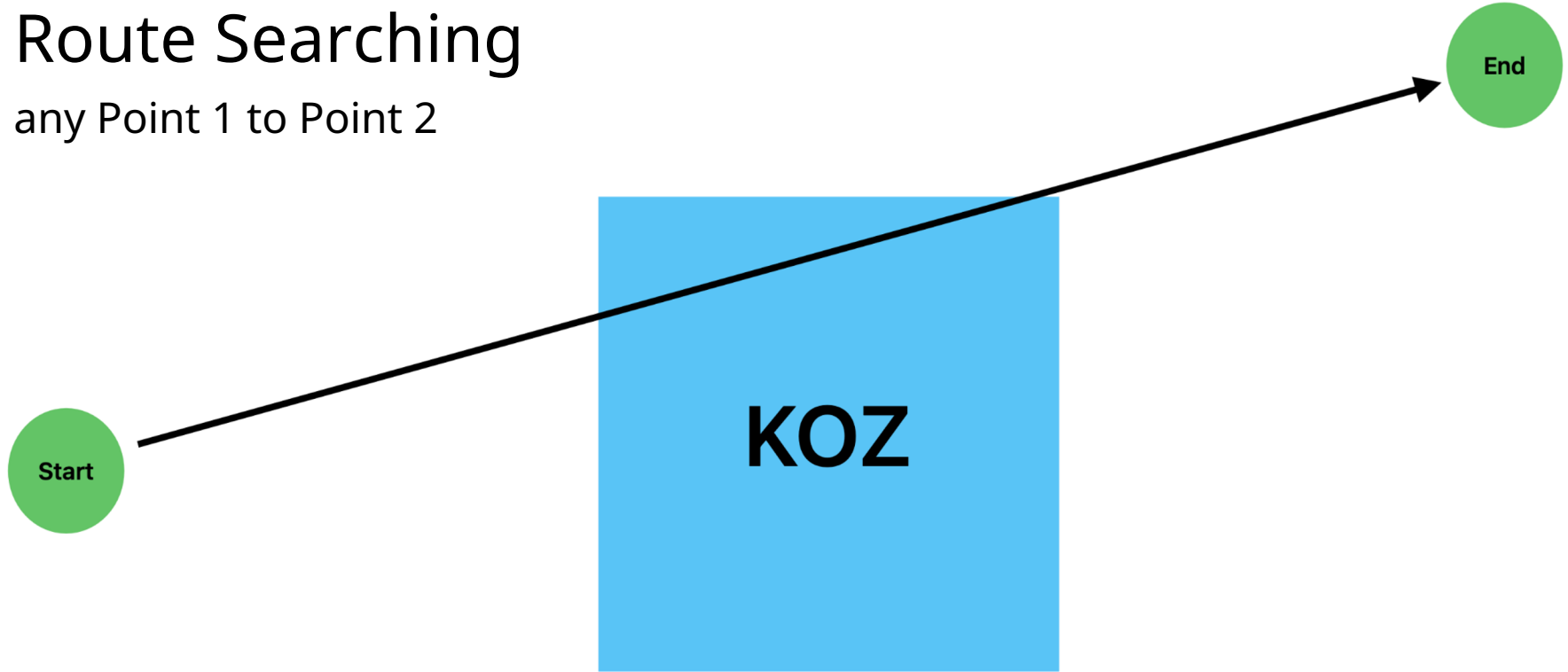


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# Route Design

## Route Searching

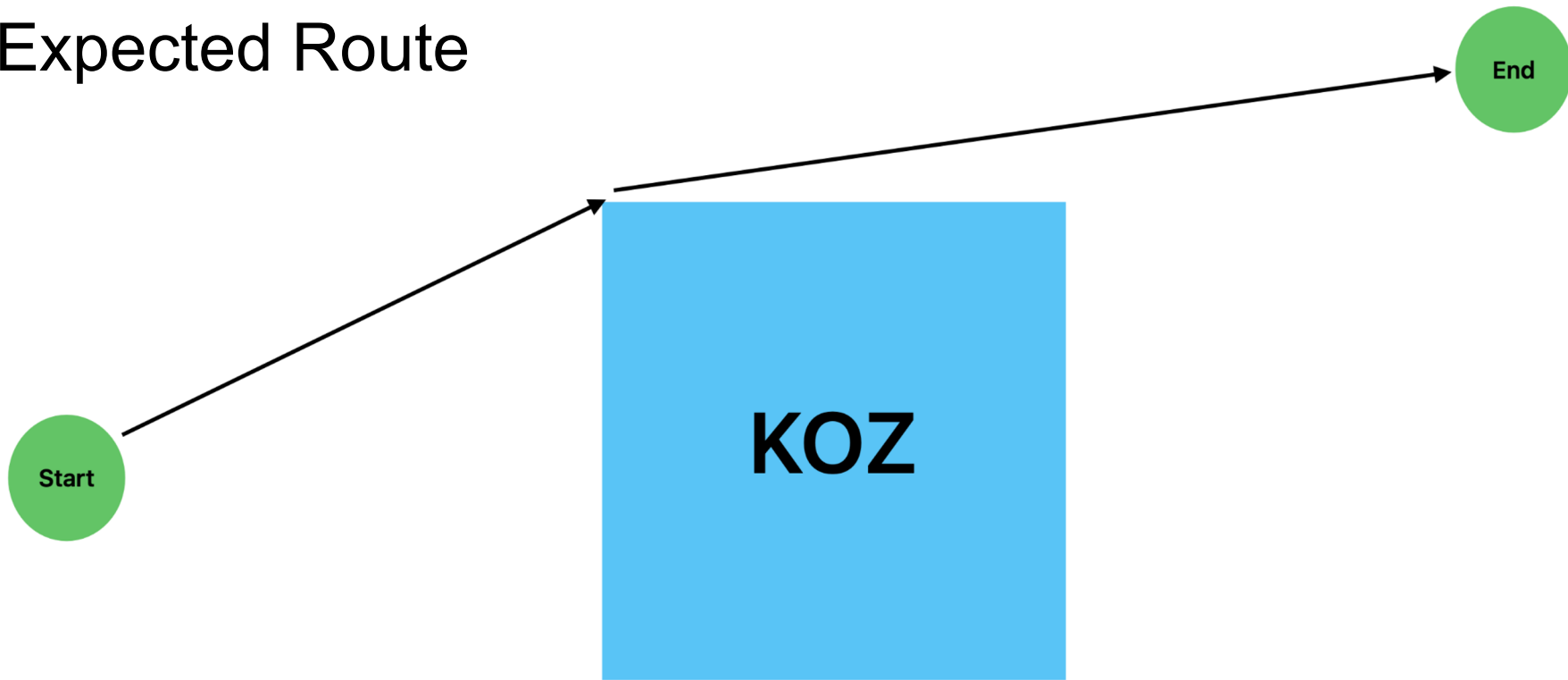
any Point 1 to Point 2





# Route Design

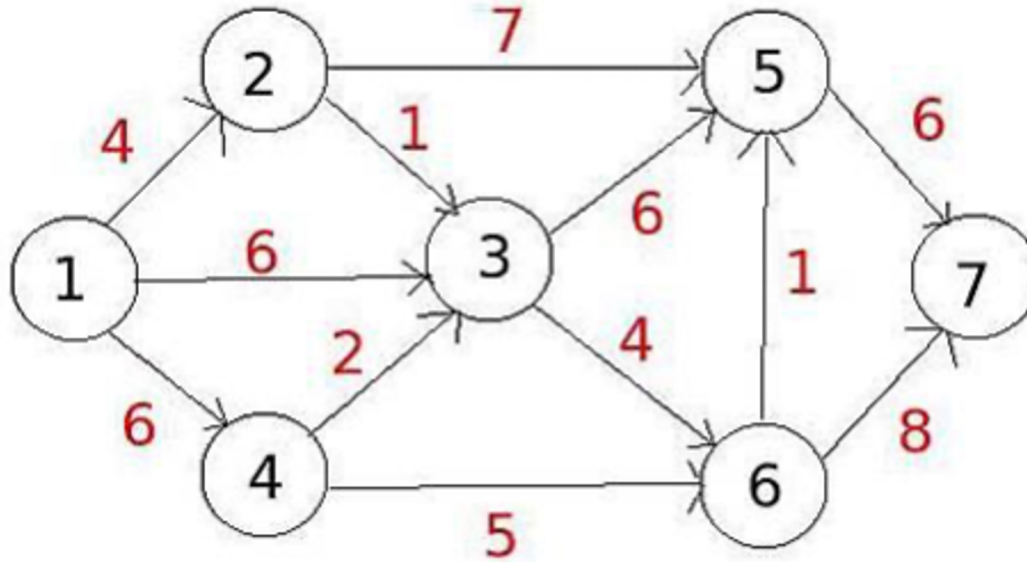
Expected Route





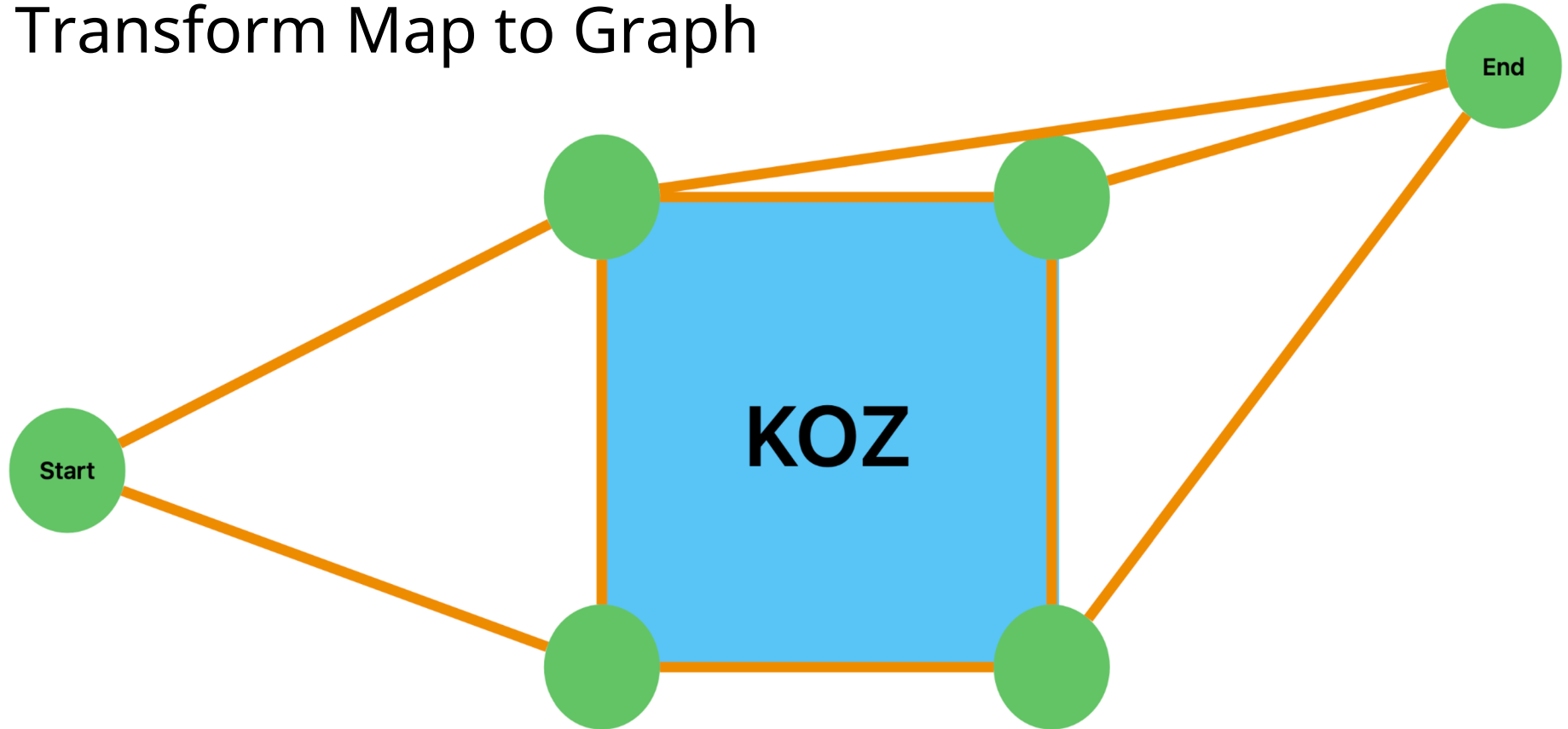
# Route Design

Use graph to Simulate map



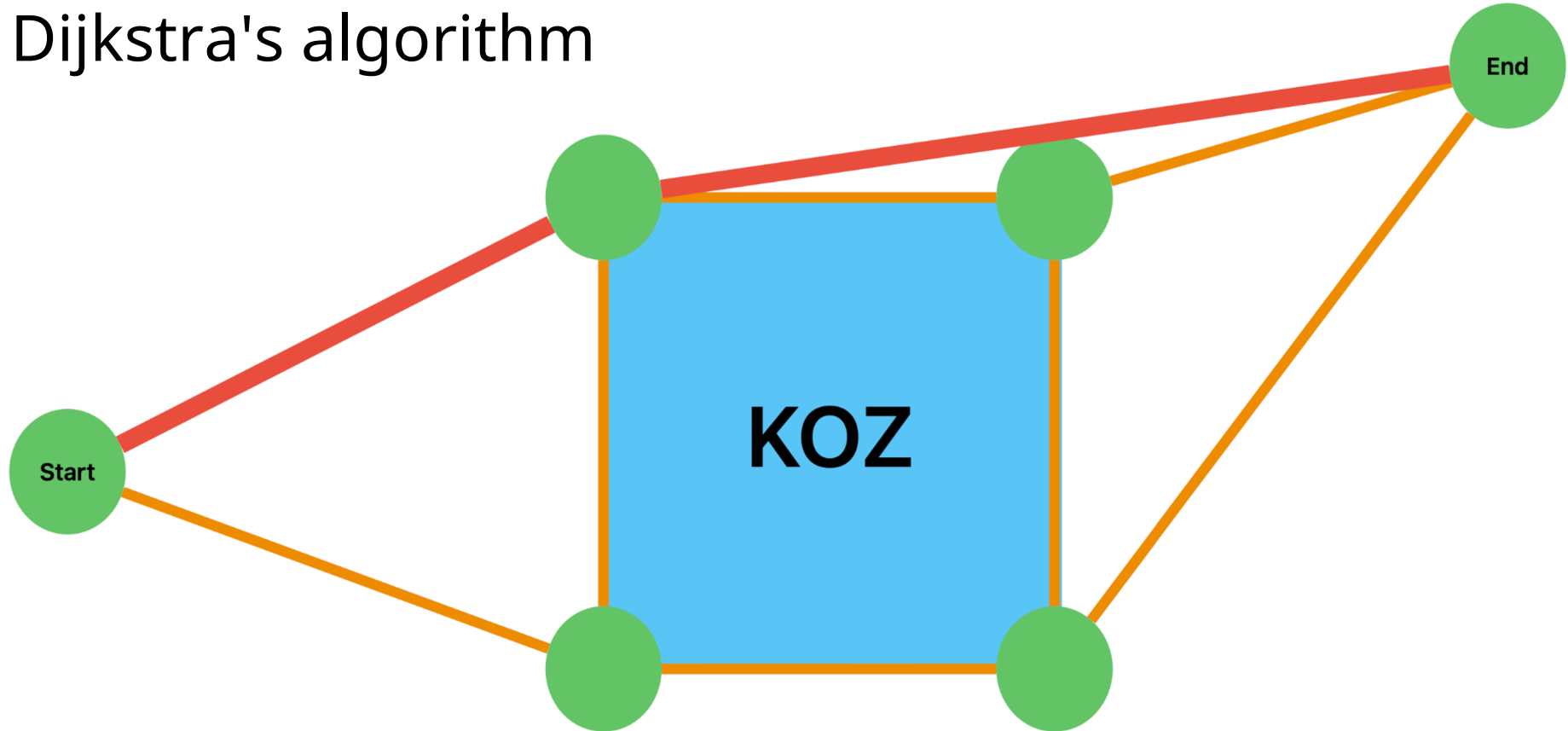


# Transform Map to Graph





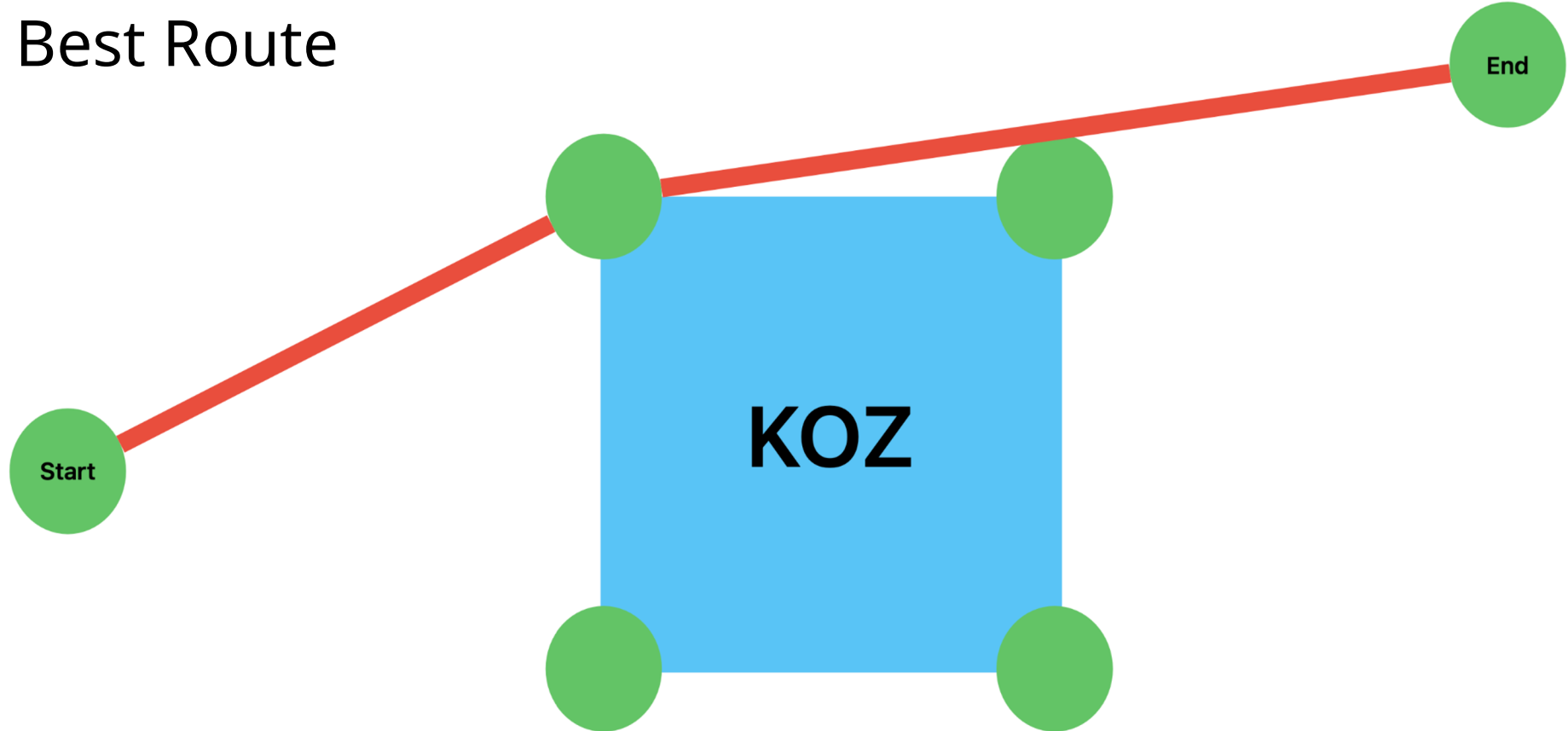
## Dijkstra's algorithm







## Best Route

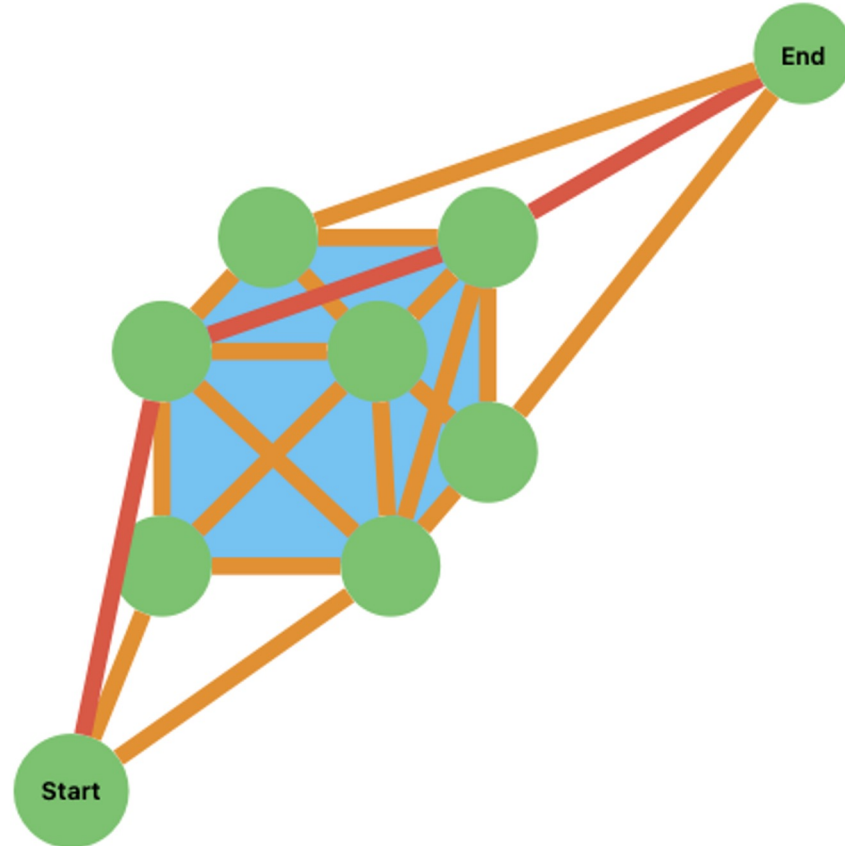




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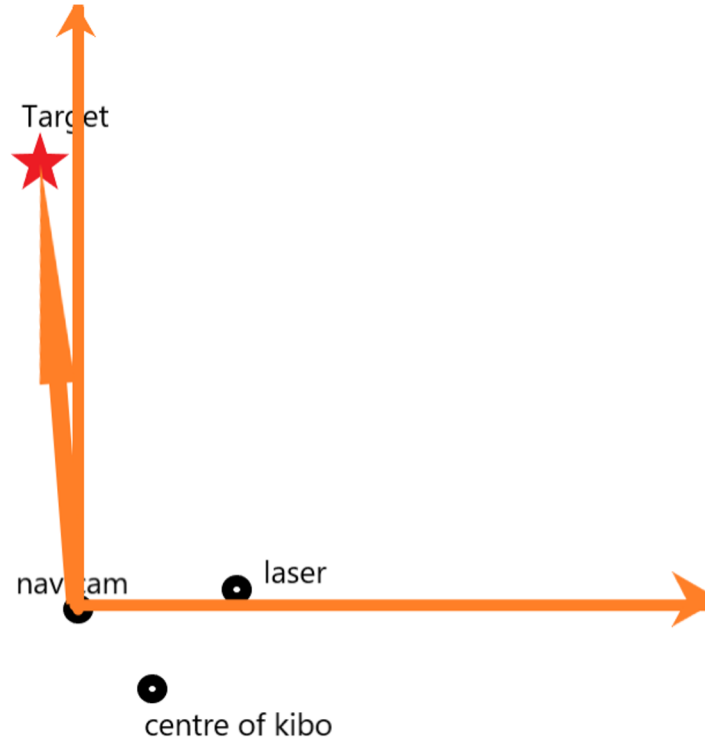
# Route Design

In 3D world



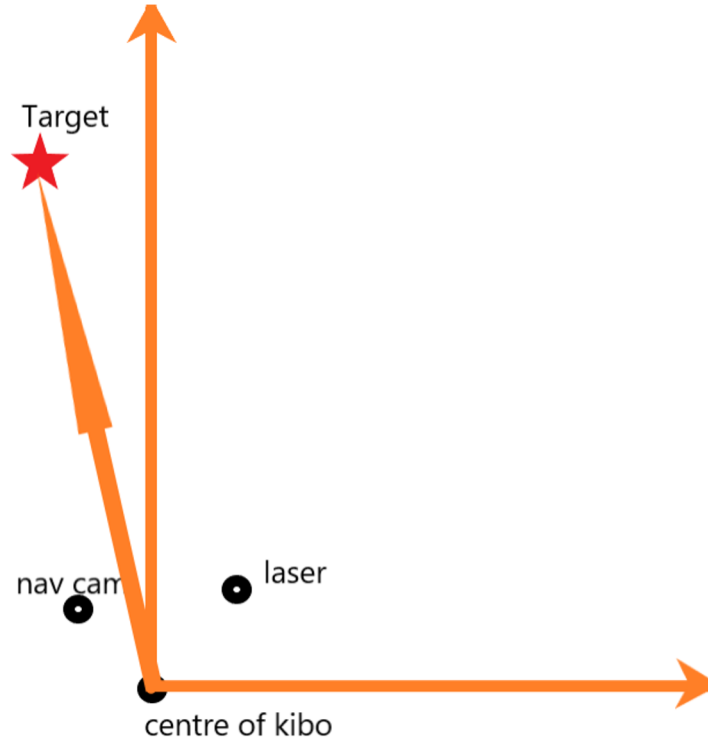


get relative pos of target in nav cam's coord



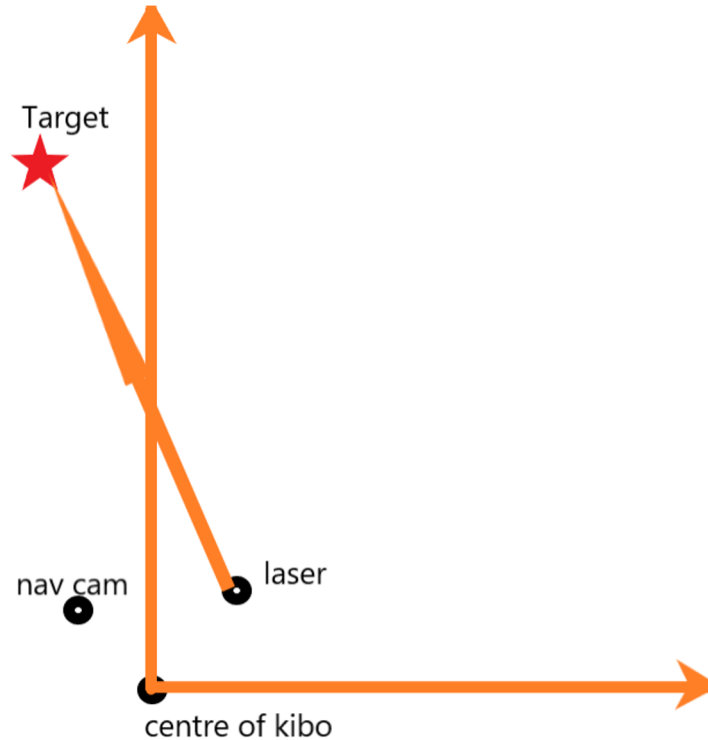


convert to new coordinate's vector



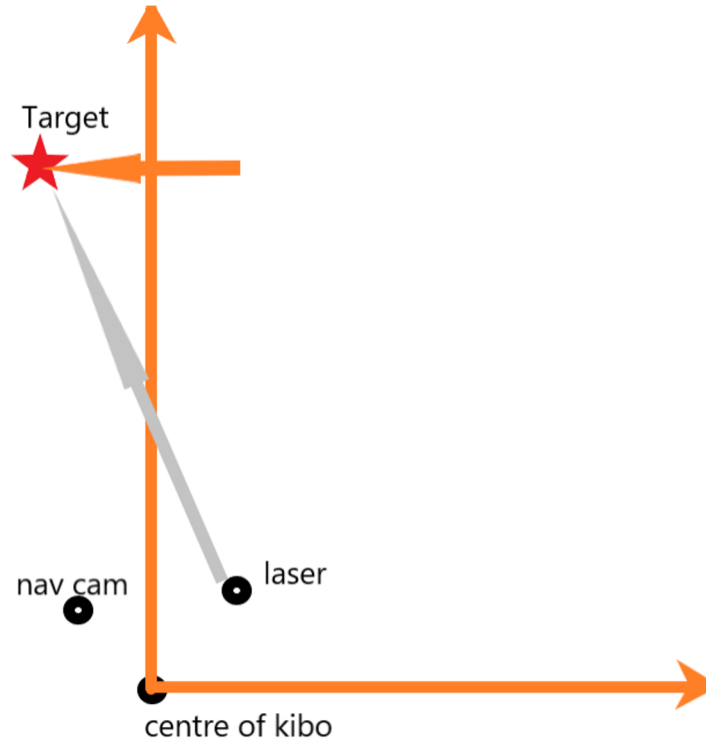


find vector between laser and target





discard vertical movement





convert back to real coord

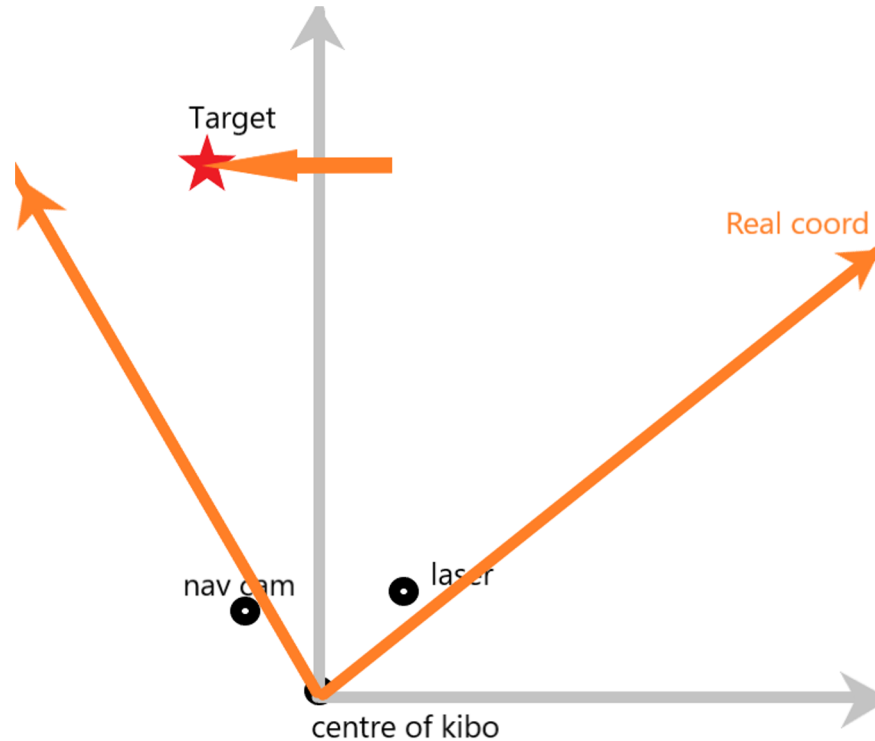




Image  
Processing

Resize Image  
2000\*1500

Flash Control  
Front 0.05f, Back 0.025f

Luminance Source  
Binary Bit map

`QRCodeReader().decode(bitmap).getText()`

Report  
Message

Content	Report Message	Content	Report Message
JEM	STAY_AT_JEM	ASTROBEE	I_AM_HERE
COLUMBUS	GO_TO_COLUMBUS	INTBALL	LOOKING_FORWARD_TO_SEE_YOU
RACK1	CHECK_RACK_1	BLANK	NO_PROBLEM





QRcode can scanning

But the path setting got wrong so QRcode part is failed

[< BACK](#)

Simulation Result

Status	Finished	Executed	2023-06-25 11:25:24
Team	KiBobo	Country/Region	Taiwan
APK	app-debug.apk		
Phase	Preliminary Trial	Active Targets Config	Random
Simulator Version	1.0		
Memo	QRCode scanning test (go to goal point then come back to QRcode)		

Target Result

Phase	Phase Time	Hit the Circle	Score	Detail
1	01:44.7	0 / 2	0/60 pt	<a href="#">DETAIL</a>

Report Result

Finish within the time limit	Reading QR Code	Score
✖	✔	40 pt

Total Result

Score40 pt

Game Time01:44.7

[SIMULATOR VIEWER](#) [DOWNLOAD LOG FILES](#) [DOWNLOAD ROSBAG FILE](#) [DOWNLOAD IMAGE FILES](#)



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