

Runsaround (Hard Mode)

Oh no! There are two robots rampaging around downtown! Looks like the Fuzzkins will have to split up to deal with the threat!

In an echo of the episode, the Fuzzkins released killer robots into downtown Boston on Christmas Eve, and we were forced to split our forces to deal. During the chase, we learned a valuable lesson: the journey is more important than the destination.

Note: When an instruction talks about converting between numbers and letters or vice versa, use the mapping $A = 1, B = 2, \dots, Z = 26$.

- 0A. Head to the nearby cafe. Let N be its street number divided by six, rounding down if necessary. Turn around and walk down Mt. Auburn St. until you reach its intersection with JFK St. Then go to instruction N .
- 0B. Head to the nearby salon. Let N be the hour that it closes on Tuesdays, in 24-hour time. Turn right and follow the road until it ends. Turn left. Go to instruction N .
1. Continue ahead and take the second left. You will receive a word from the other team. Count the number of letters in the word, and go to that instruction.
2. Go straight, passing between a building on your right and a stairway on your left. On your right is a building named for a specific individual. Pass the last name of that individual to the other team. Continue through and turn right when you can, then turn left when you can, then turn right when you can. Continue straight, just past the second intersection. Take the second letter of the street you just passed and convert it to a number. Go to that instruction.
3. Turn left, and walk one block forward. On your right is a bus stop. Let N be the smallest numbered bus line stopping here. Pass N to the other team. Let P be the largest numbered bus line stopping here. Sum the digits of P . If the sum is greater than 26, repeatedly subtract 26 from that sum until you get something less than or equal to 26. Then go to that instruction.
4. Continue straight until the street ends. On your left is a building. Pass its street number to the other team. Turn around, walk forward, and take the first left. Walk forward, just past the next intersection. Take the second letter of the street you are on and convert it to a number. Go to that instruction.
5. Continue forward until you can't anymore. Turn right, and walk straight until you reach an intersection. You will receive a word from the other team. Take the fourth-to-last letter of that word and convert it to a number. Go to that instruction.
6. Continue ahead and then take the first right. Walk straight until you reach the second intersection. (Note that private ways count!) Pass the name of the crossing street to the other team, excluding "Street", "Road", and other such suffixes. Take the second letter of the street name that can be interpreted as a Roman numeral, and let N be the numeric value of that Roman numeral divided by the number of times it appears in the street name. Go to instruction N .
7. Walk forward for a little while, then make a 90 degree right turn when you can. Follow the path until you enter a square. Go to the nearest intersection, facing in roughly the same direction as you were facing when you first entered the square. You will receive a word from the other team. Convert the letters in that word to numbers, and add all of those numbers together. If the sum is greater than 26, repeatedly subtract 26 from that sum until you get something less than or equal to 26. Then go to



that instruction.

8. Turn right, and head straight on until the road ends. Turn left, then walk straight until you hit an intersection. You will receive a number from the other team. Take its last digit, and go to that instruction.
9. Turn left, then turn right as soon as you can and continue straight until you reach a building. Turn right from there. You will receive a word from the other team. Convert its first letter to a number and add one. Go to that instruction.
10. Continue ahead and take the second right. Continue ahead until a store with a four letter name is on your left. Pass that name to the other team. Convert the second and fourth letters of the name to numbers and add them together. If the sum is greater than 26, repeatedly subtract 26 from that sum until you get something less than or equal to 26. Then go to that instruction.
11. Follow this street until you find a gate on the right. Go in. As you enter, look to the left for an inscription. In the first column, one letter appears most often. Pass that to the other team. This area was named for a specific individual. Count the number of letters in his or her last name, and go to that instruction.
12. Walk straight ahead until you reach a building. Pass the second word of the name of the building to the other team. In the first word, one letter appears twice. Convert that letter to a number and go to that instruction.
13. Turn left, and continue straight on until the road ends. Turn right. You will receive a number from the other team. Sum its digits, and subtract four. If the sum is greater than 26, repeatedly subtract 26 from that sum until you get something less than or equal to 26. Then go to that instruction.
14. Continue straight ahead. When you come to a fork, bear right. Then take the first right after that. You will receive a word from the other team. Count the number of letters in that word. Go to that instruction.
15. Continue straight ahead and turn left as soon as you can. Walk forward until you reach an intersection. You will receive a word from the other team. Take the fourth letter of that word and convert it to a number. Subtract one from that number. Go to that instruction.
16. Continue straight and take the second left. Go straight on until you see a sit-down restaurant on the right side of the street. Pass the first word of its name to the other team. Let N be the street address of that restaurant plus 1. Find the largest prime factor of N . Go to that instruction.
17. Continue straight ahead until the end of the road. Cross the street and turn left. Ahead of you there will be a gate. Go in. You will receive a number from the other team. Factorize that number into prime factors, and add them together. (If there are repeats, add them multiple times.) If the sum is greater than 26, repeatedly subtract 26 from that sum until you get something less than or equal to 26. Then go to that instruction.
18. Walk straight until you hit an intersection, and turn right. Walk forward one block. You will receive a word from the other team. Convert the letters in that word to numbers, and add all of those numbers together. If the sum is greater than 26, repeatedly subtract 26 from that sum until you get something less than or equal to 26. Then go to that instruction.
19. Walk one block forward. On your right will be a store bearing the name of a nearby university. Pass its street number to the other team. Take the sum of the digits of that street number, and go to that



instruction.

20. Turn right, and walk straight ahead until you find a natural stopping point.
21. Walk straight ahead past two intersections. On your left will be an eatery. Pass the namesake's last name to the other team. Convert the second-to-last letter of the last word in the name of the eatery to a number. Go to that instruction.
22. Take the second right. Walk one block forward, then turn left. Then continue forward again and take the first right. You will receive a word from the other team. The street that you just turned onto and the word you were just passed share exactly one unique letter. Convert that letter into a number and go to that instruction.
23. Turn right and walk straight for a while. You will soon see an store on your left whose name is half-comprised of vowels. Convert the last vowel in its name to a number, and pass that to the other team. Convert the first vowel in its name to a number, and go to that instruction.
24. Turn left, then turn right when you can. Head straight on until you come to a green area. You will receive a word from the other team. That word contains a three-letter palindrome. Convert the middle letter of the palindrome to a number. Go to that instruction.
25. Continue ahead until the end of the block, and then turn right. You will receive a word from the other team. Convert the first and fourth letters of that word to numbers and add them together. If the sum is greater than 26, repeatedly subtract 26 from that sum until you get something less than or equal to 26. Then go to that instruction.
26. Walk forward one block. Take the last word of the crossing street here, excluding "Street", "Road", and other such suffixes, and pass that word to the other team. Let A be the number of the last instruction you performed before this one. Let X be equal to 1 if the word you just passed starts with a letter in the first half of the alphabet, and 0 if the word starts with a letter in the second half of the alphabet. Let $N = 26 - A + X$. Go to instruction N .

