Q-scout Series Course

Section 13:
　《Confused Q-scout》

Curriculum objectives

Knowledge and skills (Technical)

1.Learn the concept and applications of random number in the programming.

2.Using random number module to complete task of confused Q-scout.

**Knowledge and skills (Cognitive)**

1.Through the application of random numbers students will be able to improve their logical and analytical skills.

Knowledge and skills (Emotional attitude and values)

1. Help students to improve their learning skills and make their science fundamentals strong.

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Upon the completion of various missions by the Q-scout, we have great degree of faith in the Q-scout as it completes its tasks not just successfully but also in a timely manner. But now, there was something wrong with our Q-scout as it looked a bit confused.

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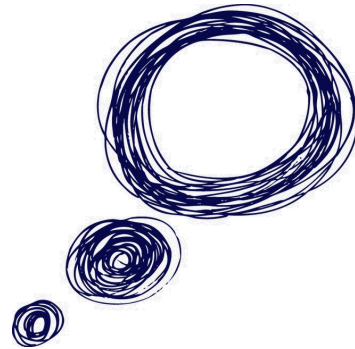
Curriculum introduction

It seems the Q-scout is confused as it is able to just move backward, forward, turning lights On/Off and playing music randomly. We can't figure out why Q-scout is so confused for a while.

Possible, a random experimental program has been uploaded to the Q-scout mistakenly

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Task analysis

Even we don't know what the confused Q-scout will do the next, but still we found a orderliness that most of the Q-scout's actions are appearing in just a random way randomly, in several actions, indicating that each action appears randomly.

1 How do we realize the randomness of the Q-scout's actions in the program?

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Knowledge explanation

Random numbers are random and have random probabilities. For example, when we throw dice, the points appear randomly and the probability of appearing of any case than others is the same.
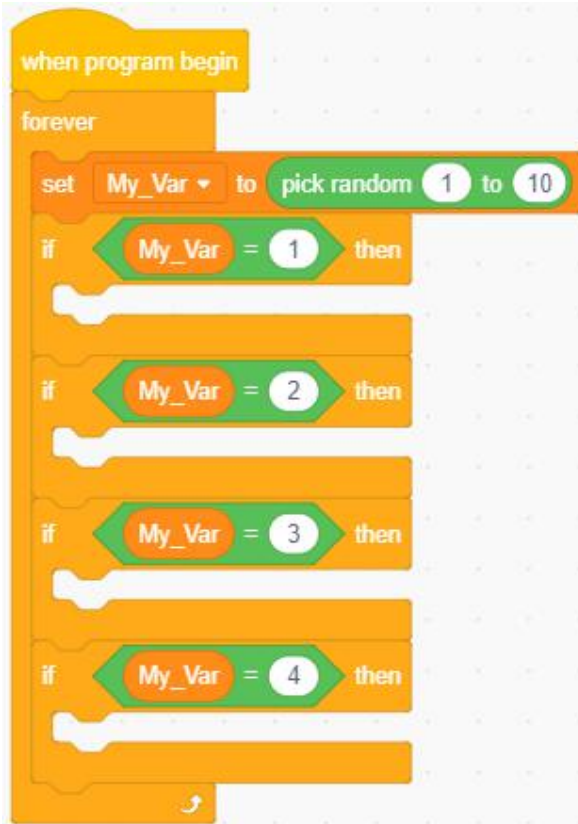
In the programming application, we also use random number.

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Knowledge explanation

From the operations module, pick the random number icon, the number in the random number can revise if it needed.

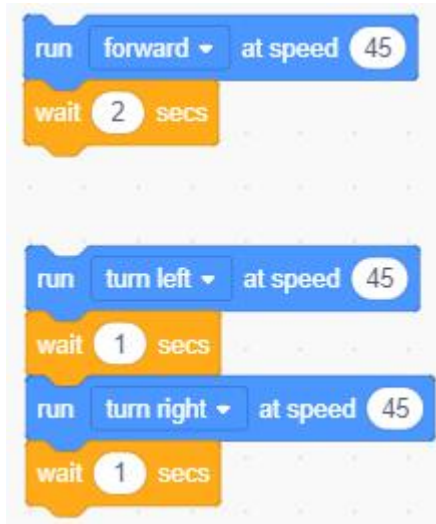

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Knowledge explanation

For a random number is to be used, you need to first create a variable for the random number, and set the created variable as a random number setting condition between () and ().

Setting condition judgment, when the random number variable is equal to a number, execute the corresponding program.

Hands-on practice

Write a program for Q-scout's random movement such as rotation, forward and backward movement, blinking of LEDs and playing of different songs randomly and so on, by putting them in the random number's conditional judgment statement.

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Extends

Try to set more random numbers and corresponding action programs to test the random actions of Q-scout just mark a situation when our Q-scout is confused.

Conclusion and reflection

1. What other applications do random numbers have in our life?

2. **Thinking**: If a coin is tossed, the probability of appearing the front side of a coin is 50% and 50% for the back side. What will happen if two coins are tossed.

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