

Q10. Taking the Train (50 marks):

Dena takes the train to work every day from the Main Street Station to the City Center Station. There are two trains she can take, the red train or the blue train. Both trains start operating at 8 a.m. A red train arrives every X minutes, and a blue train arrives every Y minutes, where X and Y are both positive integers. Dena always arrives at the platform after Z minutes past 8 a.m. but before 9 a.m., and then she gets on the first train arriving at the station. However, if both trains arrive simultaneously, Dena gets on the train with relatively lower frequency. Write a programme to find out which train Dena is taking more often.

For example:

Assume that $X = 2$, $Y = 3$ and $Z = 6$.

If she arrives between 08:06 and 08:08, she takes the red train that arrives at 08:08.

If she arrives between 08:08 and 08:09, she takes the blue train that arrives at 08:09.

If she arrives between 08:09 and 08:10, she takes the red train that arrives at 08:10.

If she arrives between 08:10 and 08:12, she waits for both trains to arrive at 08:12 and takes the blue train because it is less frequent than the red train.

Since the arrival times of both trains are periodic with a period of 6 minutes, the rest of the calculation can be omitted in this example.

From the above, in conclusion, Dena is taking both trains equally often.

Write a programme to

Input, in sequence, two positive integers, X , Y , where $X \neq Y$, $1 \leq X, Y \leq 100$, and one positive real number, Z , where $0 < Z < 60$.

Output "Red" if Dena takes the red train more frequently. If she takes the blue train more frequently, then output "Blue". If she takes both trains equally often, then output "Equal".

试题 10. 乘坐火车 (50 分):

迪娜每天从 Main Street 站乘坐火车到 City Center 站上班。她可以乘坐红色或蓝色火车。两列火车均于上午 8 时开始运行，之后每隔 X 分钟就有一趟红色火车，每隔 Y 分钟就有一趟蓝色火车；其中 X 和 Y 为正整数。迪娜总是在上午 8 时 Z 分之后，但 9 时之前，抵达站台，并乘坐先到站的火车。但是，如果两列火车同时到达，迪娜会乘坐频次相对较少的火车。试写一程式以找出迪娜更常乘坐哪列火车。

例如：

假设 $X = 2$ ， $Y = 3$ 和 $Z = 6$ 。

若她在 08:06 到 08:08 之间到达，她将会乘坐在 08:08 到站的红色火车。

若她在 08:08 到 08:09 之间到达，她将会乘坐在 08:09 到站的蓝色火车。

若她在 08:09 到 08:10 之间到达，她将会乘坐在 08:10 到站的红色火车。

若她在 08:10 到 08:12 之间到达，她会等到 08:12，并在两列火车同时到站时，选择乘坐蓝色火车，因为蓝色火车没有红色火车的班次那么频密。

在这个例子里，由于两列火车的到达时间是周期性的，且其周期为 6 分钟，其余的演算可以省略。

根据以上推算，结论是迪娜乘坐两列火车的频次一样。

试写一程式以

输入两个正整数， X ， Y ，并已知 $X \neq Y$ ， $1 \leq X, Y \leq 100$ ，和一个正实数， Z ，并已知 $0 < Z < 60$ 。

输出"Red" 若迪娜比较频繁乘坐红色火车。若她比较频繁乘坐蓝色火车，则输出"Blue"。若她乘坐两列火车的频次一样，则输出"Equal"。

Test Cases:

Input (输入)	Output (输出)
2 3 6	Equal
33 38 36	Red
70 68 51	Blue
27 23 45	Red
58 59 57.5	Red
5 10 49	Blue
15 30 40	Blue
9 7 35	Red
36 24 12	Equal
5 6 29.75	Blue