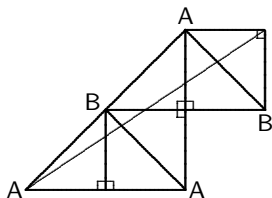# Problem: Billiard Paths 2

Joel Reyes Noche

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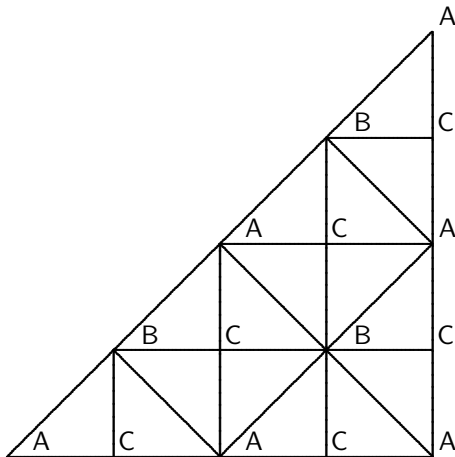
Path rows that correspond to each column

For m $= 2/3$, r[0] $= 0$, r[1] $= 0$, r[2] $= 1$, r[3] $= 2$

```
r[0] = 0;
for (c = 1; c <= d; c++)
    r[c] = r[c-1] + (int)((double)c * m)
           - (int)(((double)c - 1) * m);
```

Odd and even rows; odd and even columns

```
strcpy(str, "A");
for (c = 1; c < d; c++)
    if (c % 2 == 1) { /* odd column */
        strcat(str, "a");
        if ((r[c] % 2 == 0) || (r[c+1] == r[c])) strcat(str, "c");
        if (c + 1 == d) strcat(str, "C");
    }
    else if (r[c] % 2 == 0) { /* even column, even row */
        if (r[c-1] == r[c] - 1) strcat(str, "bc");
        strcat(str, "b");
        if (r[c] == r[c+1]) strcat(str, "c");
        else if (c + 1 == d) strcat(str, "B");
        else strcat(str, "ac");
    }
    else { /* even column, odd row */
        if (r[c-1] == r[c] - 1) strcat(str, "a");
        strcat(str, "bc");
        if (c + 1 == d) strcat(str, "C");
        else if (r[c+1] == r[c] + 1) strcat(str, "b");
    }
```