



Problem of the Week

Problem B

Shelby's Code

Shelby is using block coding to draw different shapes.

- (a) Her first program is shown. What shape will be drawn after running this program?

```

on start
  pen down
  move forward 10 steps
  turn right 90 degrees
  move forward 10 steps
  turn right 90 degrees
  move forward 10 steps
  turn right 90 degrees
  move forward 10 steps
  turn right 90 degrees
  
```

- (b) Using the given blocks, write a program to draw the same shape as Shelby's program, using fewer blocks. Notice that some blocks contain an empty box to be filled with a number.

Blocks	Program
<div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px; background-color: #e0f2f1;"> move forward <input style="width: 20px;" type="text"/> steps </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px; background-color: #e0f2f1;"> turn right <input style="width: 20px;" type="text"/> degrees </div> <div style="border: 1px solid #ccc; padding: 5px; background-color: #ffe0b2;"> repeat <input style="width: 20px;" type="text"/> times </div>	<div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px; background-color: #212121; color: white;"> on start </div> <div style="border: 1px solid #ccc; padding: 5px; background-color: #c8e6c9;"> pen down </div>

- (c) Using the given blocks, write a program to draw the following shape: You may use a block more than once.

Blocks	Program
<div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px; background-color: #e0f2f1;"> move forward <input style="width: 20px;" type="text"/> steps </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px; background-color: #e0f2f1;"> turn right <input style="width: 20px;" type="text"/> degrees </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px; background-color: #e0f2f1;"> turn left <input style="width: 20px;" type="text"/> degrees </div> <div style="border: 1px solid #ccc; padding: 5px; background-color: #ffe0b2;"> repeat <input style="width: 20px;" type="text"/> times </div>	<div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px; background-color: #212121; color: white;"> on start </div> <div style="border: 1px solid #ccc; padding: 5px; background-color: #c8e6c9;"> pen down </div>