

National 5 Computing Homework



Computational Thinking

Topic 1 - Fixed Loops

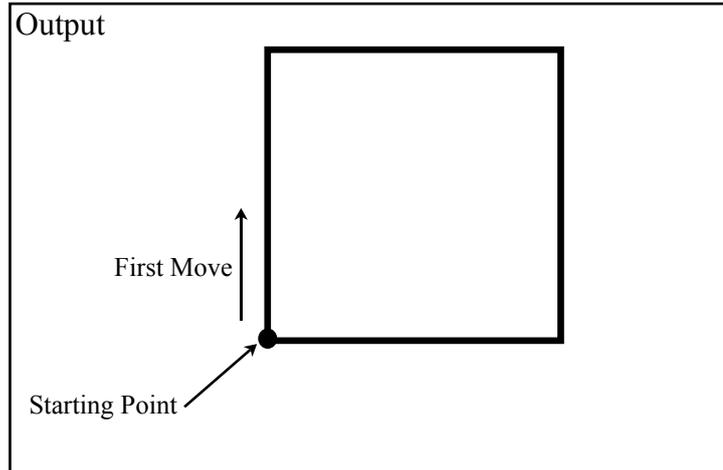
Name -

Grade - / 15

Feedback

The Scratch program below draws the square shown in the output box.

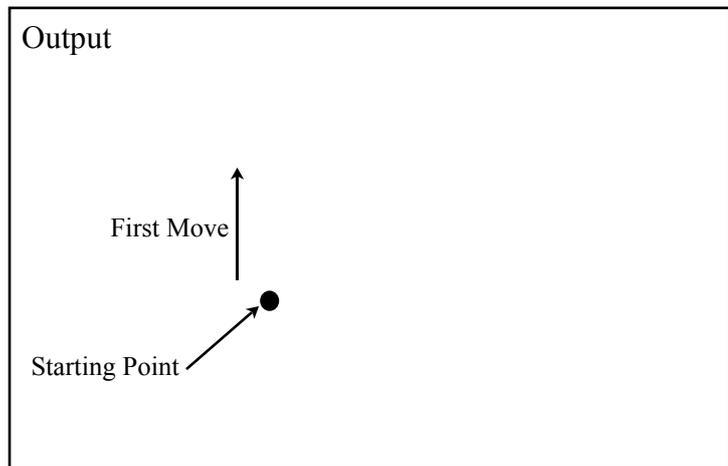
```
when clicked
pen down
repeat 4
  move 100 steps
  turn 90 degrees
pen up
```



1. Draw the output from the following program.

(2)

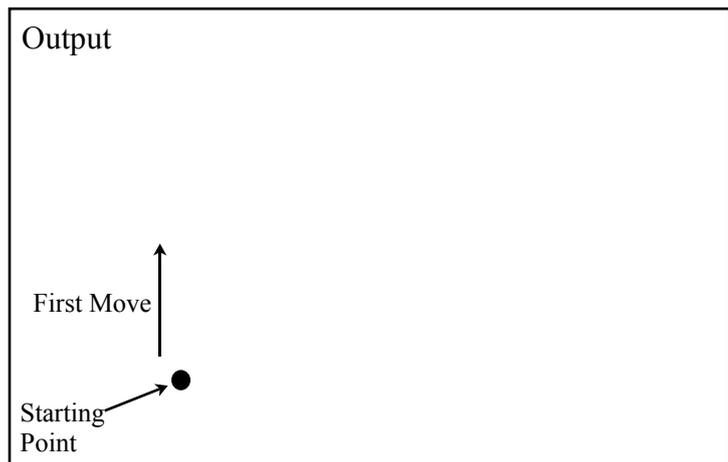
```
when clicked
pen down
repeat 6
  move 100 steps
  turn 60 degrees
pen up
```



2. Draw the output from the following program.

(2)

```
when clicked
pen down
repeat 2
  move 50 steps
  turn 90 degrees
  move 50 steps
  turn 90 degrees
pen up
```



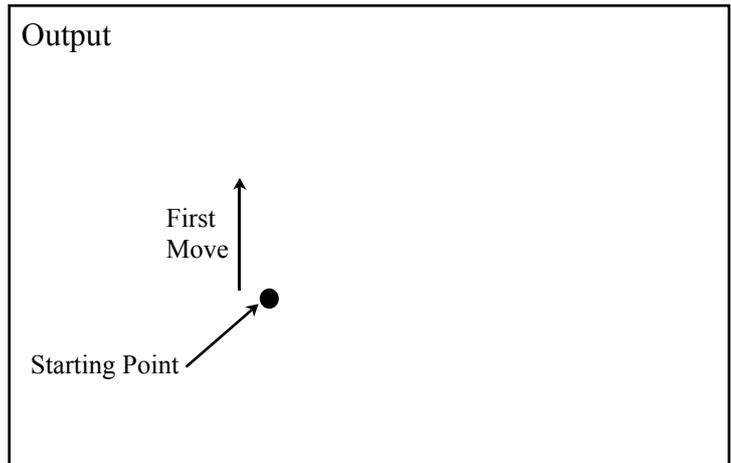


3. (a) Draw the output from the following program. (2)

```

when clicked
pen down
repeat 4
  move 50 steps
  turn 45 degrees
repeat 4
  move 50 steps
  turn 45 degrees
pen up

```



(b) How could you reduce the number of instructions in the code but still produce the same output? (2)

4. Which program(A,B or C) will produce the output shown on the right?. (1)

A

B

C

```

when clicked
repeat 9
  turn 10 degrees
pen down
repeat 2
  move 50 steps
  turn 90 degrees
repeat 2
  move 50 steps
  turn 90 degrees
pen up

```

```

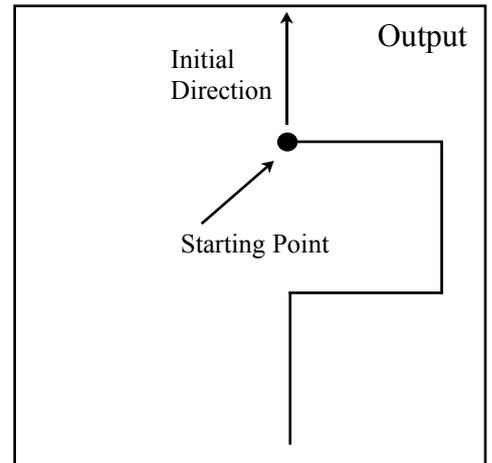
when clicked
pen down
repeat 2
  turn 90 degrees
repeat 2
  move 50 steps
  turn 90 degrees
  move 50 steps
  turn 90 degrees
pen up

```

```

when clicked
pen down
turn 90 degrees
repeat 2
  move 50 steps
  turn 90 degrees
repeat 1
  move 100 steps
  turn 90 degrees
pen up

```



5. Three numbers have been removed from the code. Write the numbers in the appropriate places to complete the code that would create the output shown. (3)

```

when clicked
pen down
repeat 
  repeat 4
    move 100 steps
    turn  degrees
    turn  degrees
pen up

```

