

Solutions to Exercise 2

Virtual Machine

Part 1

Local Variable Stack:

```
S:00    a  (S)
S:01    b  (S)
S:02    i  (S)
```

Code:

```
P:0000    07          sconst_4
P:0001    31          sstore_2          i
P:0002    70 0b      goto              +11 (P:000d)
P:0004    1c          sload_0          a
P:0005    1d          sload_1          b
P:0006    1e          sload_2          i
P:0007    45          smul
P:0008    41          sadd
P:0009    2f          sstore_0          a
P:000a    59 02      sinc              i
                                1
P:000d    1e          sload_2          i
P:000e    10 0a      bspush            10
P:0010    6c f4      if_scmlt          -12 (P:0004)
P:0012    7a          return
```

Part 2

```
public static short method_name (short a) {
    if(a > 10) {
        return (short) (a * 10);
    } else {
        return (short) (a * 5);
    }
}
```