CSCI   Exam #2   Practice

Tracing   Solutions + In Class Code

1)   Scratch   Stack
                            ┌─────────────────────────
                            │ main|
                            │ a=~~8~~6 7
                            │ b=7
                            │ s=~~1~~ ~~4~~ 20 120
                            │
                            │
                            │
                            │
                            └─────────────────────────

Printed output
    120

2)

Scratch	Stack

```
          main2|
                    /

          f2|
          x=5       /

          f1|       /

          f1|       /

          f2|
          x=6 7     /

          f1|       /
```

Printed Output

'Hello there'
'Goodbye!'
'Hello there'
'Hello there'

3) Scratch   Stack

main 3

top

s = 'exam'
i = ~~0~~ ~~1~~ ~~2~~ ~~3~~ 4
k = ~~0~~ ~~1~~ ~~2~~ 3   3

top

s = 'hello'
i = ~~0~~ ~~1~~ ~~2~~ ~~3~~ ~~4~~ 5
k = ~~0~~ ~~1~~ ~~2~~ ~~3~~ 4

main 3
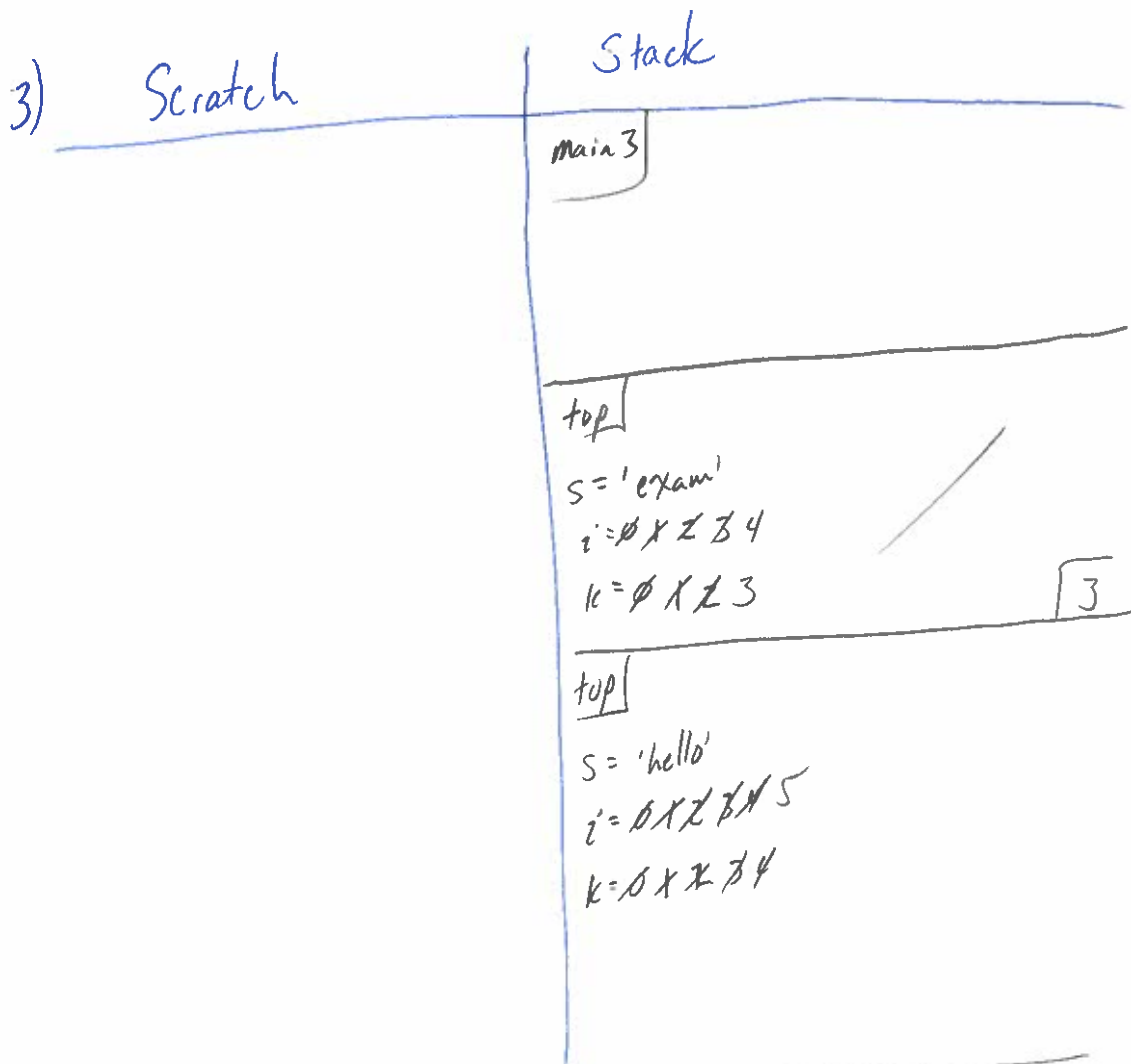
Printed Output

3
4

```
4)  def same_char(s: str, t: str) -> int:
        i = 0
        count = 0
        while i < len(s):        # you can also do len(t)
            if s[i] == t[i]:
                count += 1
            i += 1
        return count


5)  def positive_only(lst: List[int]) -> List[int]:
        new_list = []
        i = 0
        while i < len(lst):
            if lst[i] > 0:
                new_list.append(lst[i])
            i += 1
        return new_list
```