Write your name at the bottom of each page before you begin.

1. [5 points] What does this Python program print?

```python
x = 7
y = 3
x = x - y
y = 2 * x
print y
```

8

2. [5 points] What does this Python program print?

```python
a = 5
b = 3
if b > a :
    b = b + 17
print b
```

3
3. [5 points] What does this Python program print?

```python
count = 0
for i in [1, 2, 3, 4]:
    for j in [1, 2, 3, 4, 5, 6]:
        if i == j:
            count = count + 1
print count
```

4

4. [5 points] What does this Python program print?

```python
def sqsum(p, q):
    r = p*p + q*q
    return r

r = 3
s = 4
s = sqsum(r,s)
s = s - r
print s
```

22
5. [10 points] Write the missing code to create a Python function that sums the positive elements of a list of integers.

```python
def sumpos( a ):
    '''Input a is an array of integers. Output sumpos(a) is the sum of the positive elements of a.
    For example:
        sumpos([ 1, -1, 2, -2, 3, -3]) = 1 + 2 + 3 = 6
        sumpos([-1, -2, -3]) = 0
        sumpos([ 1, 2, 3, 4, 5]) = 15
    '''
    sum = 0
    for i in a:
        if i > 0:
            sum = sum + i
    return sum
```
6. [10 points] Write the missing code to create a Python function that computes the length of the longest “run” of identical elements in a string or list.

```python
def longrun( a ):
    """Returns the length of the longest sequence of identical elements in a. For example,
    longrun([ 0, 1, 1, 2, 3]) returns 2, because [1, 1] is the longest sequence of identical elements (all 1s).
    longrun("abcabaabxxxxyz") returns 3, because "aaa" and "xxx" have length 3. longrun([ ] ) and longrun("") are 0.
    """
    # Your code goes here
    if len(a) == 0:
        return 0
    maxlen = 0
    curlen = 0
    cur=a[0]
    for elem in a:
        if elem == cur:
            curlen = curlen + 1
        else:
            if curlen > maxlen:
                maxlen = curlen
            curlen = 1
            cur = elem
    if curlen > maxlen:
        maxlen = curlen
    return maxlen
```