Instructions: This is a practice exam, worth 0 marks. This is intended to give you experience with the type of questions that will be asked of you on the actual test. It is recommended that you try all of these problems by hand without the aid of a computer, before verifying your answers in Python.

A. Short Answer:

(1) What are the values of the following expressions?

\[
\begin{align*}
10/5+3*2 & : \quad \underline{\text{______________}} \\
3**3+(3\%2)//2 & : \quad \underline{\text{______________}} \\
1.0/2.5>=5-3 \text{ or } 3==1+2 \text{ and } 5*2<2*5 & : \quad \underline{\text{______________}}
\end{align*}
\]

(2) Explain what the \texttt{str()} function does.

(3) Define the term "algorithm."
B. Comprehension:

(1) What does the code to the right print?

```python
a = 10
b = 3 * (a-5)
c = b + (b//a) * a
print(f"a: {a}")
print("b: "+str(b))
print(f"c: {c:_^5}")
```

(2) What does the code to the right print?

```python
a=0
while a<10:
  print(a)
  if a%2==0:
    a=a+1
  elif a==6:
    a=a-1
  else:
    a=a*2
  print(a)
```

(3) What does the code to the right print?

```python
def fun(x):
    z = x
    for i in range(3,x):
        z += i
    return z

a=2
b=7
if a*2 < 10 and not b==a+5:
    a = fun(a+b)
if not (1<a or 3>b):
    b = fun(a*b)
elif b<=a and b//a+a%a<10*(b-a):
    a = fun(5-a)
else:
    b = fun(8-a)
print(a)
print(b)
```
(4) What does the code to the right print?

```python
def f(x):
    return x+g(x)
def g(x):
    return 10-x
def h(x):
    return g(2*x) + f(x+1)
print(h(3))
```

(5) What does the code to the right print?

```python
def hello(a,b):
    while a<b:
        word = "Hello"
        for i in range(0,a):
            word=word+"!
        a=a+1
    print(word)
hello(2,5)
```
C. Programming:

(1) Write a program that repeatedly asks the user to enter a positive integer. The program should continue asking the user for numbers until they enter a negative number. At which time the program should output the sum of all of the positive numbers entered.

\[ \text{n} = 0 \\
\text{sum} = 0 \\
\text{while (n} \geq 0): \\
\text{n} = \text{int(input("Enter a number (<0 to quit): ")}) \\
\text{if n} > 0: \\
\text{sum} += n \\
\text{print(sum)} \]

(2) Write a function called evenNums() that takes two integer arguments and returns how many of the arguments are even numbers.

E.g. evenNums(2,3) \rightarrow 1
E.g. evenNums(4,6) \rightarrow 2

\text{def evenNums(a,b):} \\
\text{if a} \% 2 == 0 \text{ and b} \% 2 == 0: \\
\text{return 2} \\
\text{elif a} \% 2 == 0 \text{ or b} \% 2 == 0: \\
\text{return 1} \\
\text{else:} \\
\text{return 0} \]
(3) Complete the code below to create a function that takes in an integer argument \( n \), displays a series of numbers as follows: for every positive integer less than \( n \), display the sum of the values from 1 to that number, followed by the sum of all of the displayed sums. You may not use the built-in sum function for this problem. (Note, the comments in the examples below are not part of the output).

**E.g.** sumsFunc(6) 
21 \# =1+2+3+4+5+6 
20 \# =2+3+4+5+6 
18 \# =3+4+5+6 
15 \# =4+5+6 
11 \# =5+6 
6 \# =6 
91 \# =21+20+18+15+11+6 

**E.g.** sumsFunc(3) 
6 \# =1+2+3 
5 \# =2+3 
3 \# =3 
14 \# =6+5+3 

```python
def sumsFunc(n):
```