There are 25 True/False and multiple choice questions. Each one is worth 4 points.

The total score for the exam is 100.

Answer the questions on the bubble sheet given to you.

Remember to fill in the following bubble card fields:

- **student ID**: use the 10 digit ID number on your student ID card. **DO NOT USE YOUR SOCIAL SECURITY NUMBER**! If you forget to write your student ID in the bubble card, you may get a 0.

- **Last Name and First Name**

- **Instructor**: put your *RECITATION INSTRUCTOR’S LAST NAME* given in the table below

- **Test/Quiz**: put 01

- **Course**: 177

- **Section number**: find your recitation section in the table below and put in the bubble card the **last** column of the table below

<table>
<thead>
<tr>
<th>Section</th>
<th>Day</th>
<th>Time</th>
<th>Instructor</th>
<th>Section number for bubble card</th>
</tr>
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<td>R03</td>
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<td>7:30</td>
<td>Goyal, Rachna</td>
<td>0001</td>
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<td>R05</td>
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<td>Gandikota, Venkata</td>
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<td>R08</td>
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<td>R04</td>
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<td>F</td>
<td>4:30</td>
<td>Fuerst, Joshua</td>
<td>0011</td>
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</table>
Exams without names will be graded as zero.
Only the answers on the bubble sheet will be counted.
The questions will be discarded.

Remember to fill in also the fields on page 2 (please use capital letters!).

Recitation Section Number__________________________

Recitation TA’s Name_____________________________

Student Last Name_______________________________

Student First Name_______________________________
Read all questions and answers carefully! Do not make any assumptions about the code other than those that are clearly stated.
Q1.
What are a, b, and c's values after executing the following code:

1. a = 3
2. b = 15
3. c = 21
4. a,b = b,a
5. b,c = c,b

A) a = 15; b = 21; c = 3
B) a = 15; b = 3; c = 15
C) a = 21; b = 15; c = 3
D) a = 15; b = 3; c = 21

Q2.
11011 in decimal is:

A) 15
B) 27
C) 35
D) 23
Q3.
How many possible states can be encoded by 6 bits?
A) 64
B) 6
C) 16
D) 32

Q4.
What will the following code print?

```python
def function1(arg1):
    print (arg1+1)
    return (arg1+2)

def main():
    a = 10
    b = function1(a+1)
    print(b)
    main()
```

A) 10
   11
B) 11
   12
C) 12
   13
D) 13
   14
Q5.
Which of the following code will **NOT** result in an error?

i)
```python
from math import *
x = sqrt(25)
```

ii)
```python
import math
x = sqrt(25)
```

iii)
```python
import math
x = math.sqrt(25)
```

A) only i)
B) only ii)
C) ii) and iii)
D) i) and iii)
Q6.
Which is the output of the following Python Code?

```python
def fancyFunc(a):
    if a < 10:
        return 42
    else:
        return -1
    print(a)
    return a

print(fancyFunc(10))
```

A) 

-1
10

B) 

-1
10
10
10
10

C) 

-1
10
10

D) 

-1
Q7.
Given the following code:

```python
a=5
b="xyz"
```

then the boolean expression `(not a and b)` is True.

A) True
B) False

Q8.
The following code will print out 12:

```python
1. def inc(x):
2.     x = x + 1
3.     return x
4. y = 11
5. inc(y)
6. print(y)
```

A) True
B) False
Q9.
Consider the following function:

```python
def mysteryFunc(a, b):
i = 0
result = 0
while i < b :
    result = result + (a * a)
i = i + 1
return result
```

What is the value returned by the function call: `mysteryFunc(2,4)`?

A) 0  
B) 8  
C) 16  
D) 32  

Q10.
Consider the following two code snippets:

```python
code#1:
for i in range (10):
    print (i)

code#2
i = 0
while i < 10:
    print(i)
i = i + 2
```

Are they equivalent?

A) True  
B) False
Q11.
What will the following code print?
```
myList = ['A', 'B', 'C', ['X', 'Y', ['s', ['m', 'r'], 't'], 'Z'], 'E']
print (myList[3][2][1][0])
```
A) m  
B) X  
C) t  
D) C  

Q12.
Which of the following statement(s) will result in an error?

i) a = “My favorite number is: “ + 7
ii) print(“My favorite number is: “,7)

iii)
```python
b = 10
b = b.append(7)
```

A) only i)  
B) ii) and iii)  
C) i) and ii)  
D) i) and iii)
Q13.
Which will be the result of the following statement?

   list(range(0,10, -1))

A) [10,9,8,7,6,5,4,3,2,1]
B) [9,8,7,6,5,4,3,2,1]
C) []
D) [9,8,7,6,5,4,3,2,1,0]

Q14.
If P=True and Q=False, what will the following code print?

   if ((P and (not Q)) or ((not P) and Q) == True):
       print ("True")
   else:
       print ("False")

A) True
B) False
Q15.

Which is the output of the following code?

1. b=[1,3,5,7]
2. b.append(9)
3. b.append(10)
4. b=b+[2,4,6,8]
5. print(b[len(b)])

A) 4
B) 8
C) a list index out of range error
D) 10

Q16.

Given the following list:

c=[34, "aac", [89, 11.3], [3, 8, 5], 9.5]

Which of the following statements will extract the value 5 from it?

A) c[4][3]
B) c[3][2]
C) c[4][2]
D) c[3][3]
Q17.

The following code prints "ABCZEFGH"

1. String = "ABCDEFGH"
2. String[3] = "Z"
3. print(String)

A) True
B) False

Q18.

Which is the output of the following code?

1. a=12
2. b=6
3. c=2
4. d=(a+b)/3*c
5. print(d/1.5)

A) 8.0
B) 4.0
C) 12.0
D) 3.0
Q19.
What is the output of the following Python Code?

```python
x = 35
y = 10
def myFun(a, b):
    global x
    x = x + a
    y = 10 + b
    return x + y
result = myFun(20, 30)
print(x + y + result)
```

A) 140
B) 190
C) 150
D) 160

Q20.
The following code will print the string CS177-Midterm

```python
def FuncLen(x):
    i = 0
    word=""
    while i < 10 : 
        word= word + x[i]
        i = i + 1
    print(word)

FuncLen("CS177-Midterm")
```

A) True
B) False
Q21.

What is the output of the following Python Code?

```python
def myConditionals(x, y):
    if x < 10 and y < 35:
        print(x+y)
    elif x < 5 and y ==35:
        print(y)
    elif y >= 35:
        print(x)
    else:
        print(42)

myConditionals(9, 35)
```

A) 35
B) 45
C) 9
D) 42

Q22.

What is the output of the following Python Program?

```python
def playWithStrings(a, b):
    z = ' ' 
    for x in a:
        z = x + z
    return z + b

print(playWithStrings ("Hello", "World"))
```

A) olleHWorld
B) HelloWorld
C) Hello World
D) olleH World
Q23.

You love Python so much that you decided to write a program to display your feelings to the world! How many times does the following Python Program print: “I like Python”?

```python
def iLikePython(a,b):
    for x in range(a):
        for y in range(b):
            print("I like Python")
iLikePython (4,3)
```

A) 12  
B) 7  
C) 4  
D) 3

Q24.

What is the output of the following Python Code?

```python
def myTests(x, y, z):
    if y == z:
        z = x + y
    else:
        return 42
    if z < y:
        return 24
    x = x**2
result = myTests(10, 9, 9)
print(result)
```

A) This code produces an error and thus has no output  
B) NONE  
C) 24  
D) 42
Q25.

What is the output of the following Python Program?

```python
x = "THIS is a string"
x.lower()
x.capitalize()
print(x*3)
```

A) “This is a stringThis is a stringThis is a string”

B) the code produces an error

C) “THIS IS A STRINGTHIS IS A STRINGTHIS IS A STRINGTHIS IS A STRING”

D) “THIS is a stringTHIS is a stringTHIS is a string”