ECSE 103L: Tutorial 3

Q 1. What will be the output of the following program?
```
people = 30
cars = 40
trucks = 15
 if cars > people:
        print ("We should take the cars.")
elif cars < people:
        print ("We should not take the cars.")
else:
        print ("We can't decide.")
if trucks > cars:
        print ("That's too many trucks.")
elif trucks < cars:
        print ("Maybe we could take the trucks.")
else:
        print ("We still can't decide.")
if people > trucks:
         print ("Alright, let's just take the trucks.")
else:
        print ("Fine, let's stay home then.")
```

Q 2. What will be the output of the following program?
```
 value1= -10
if value1:
        print("1 - Got a true expression value", value1)
else:
        print("1 - Got a false expression value", value1)
 value2= 0
if value2:
        print("2 - Got a true expression value", value2)
else:
        print("2 - Got a false expression value", value2)
 value3= 1000
if value3:
        print("3 - Got a true expression value", value3)
else:
        print("3 - Got a false expression value", value3)
```

Q 3. What will be the output of the following program?
```
i=0
while i<9:
     if i%3==0:
         print(i)
```

```
     i=i+1
print("Loop completed")
```

Q 4. What will be the output of the following program?
```
i,sum=0,0
while i>90:
       if i%10==0:
            sum=sum+i
       i=i+5
print("Sum =", sum)
```

Q 5. What will be the output of the following program?
```
z,w=10,-10
while(z<50):
     if (z>0 or w<0):
          print(z**2, w**3)
     z = z+10
     w=w+10
```

Q 6. What will be the output of the following program?
```
z,w=10,-10
while(z<50):
     if (z>0 and w<0):
          print(z**2, w**3)
     z = z+10
     w=w+10
```

Q 7. What will be the output of the following program?
```
x=int(input("enter first number"))
y=int(input("enter first number"))
while(y):
    x, y = y, x % y
print(x)
```

try following input x=45, y=15 and x=21, y=9

Q 8. Write a program in Python to find the sum of the series
$$x+x^3+x^5+x^7+....x^n.$$

Q 9. Write a program in Python to calculate the double factorial of a number.
For even N it is calculated as
        $$N!!=N(N-2)*(N-4)*.....*2$$
For odd number it is calculated as:
        $$N!!=N*(N-2)*(N-4)*....*1$$