## EE393 Midterm Exam –sample questions

**1-** Write a comprehension to create the following list (Hint: First find the rule to give the sequence):
**`list [0, 2, 6, 12, 20, 30, 42, 56, 72, 90].`**

**Answer:** _____

**2-** Consider the following code:

```
if x > 3:
  if x <= 5:
    y = 1
  elif x != 6:
    y = 2
  else:
    y = 3
else:
  y = 4
```

If **`y`** has the value **2** after executing the above program fragment, then what do you know about the initial value of `x`?

**Answer:**

**3-** If **`a = [5, 4, 3, 2, 1, 0]`** evaluate the following expressions:

- `a[0]` : _____
- `a[-1]` : _____
- `a[a[-1]]` : _____
- `a[a[a[a[2]+1]]]` : _____
- `a[1:3]` : _____
- `a[1:3]+a[-1:]` : _____

**4-** Execute the following python statements. What's the output?

```
a = [1, 2]
b = []
b = b + a
b = b + a
a.append(3)
print (b)
```

**Answer:**

**5-** How many times will the following for loop execute and what's the output?

```
for i in range(-1,7, -2):
      for j in range (3):
            print(1, j)
```

**Answer:**

**6-** Complete the Python program below that reverses the order of the letters in the words in a sentence (variable name: **`inpStr`**), leaving the order of the words in the sentence unchanged. The sentence is given as a string. For example, if the sentence is: **"Hello world. I hope you are doing great."** Then it is to be reversed into: **"olleH .dlrow I epoh uoy era gniod .tearg".** Reversed string is stored in **`revStr`** variable.

```
#Get user input
inpStr=input("Your message:")
#Your code goes here. Store reversed string in revStr variable
```

**7-** Write a program that reads a **`date`** as an integer in the format **`MMDDYYYY`**. The program will call a **function** (**`convertDate`**) that prints print out the date in the format ➔**`Month_Name day, year.`**

**Sample run:**

```
Enter date: 12252003
December 25, 2003.
```

Assume input is given in correct form (i.e. all integer digits in a string). Also In the input the month and the day will always be given as two digits, including leading zero. So the **20th of May, 2017** will be entered as **05202017** and the **3rd of December, 2017** will be entered as **12032017.** Sample run:

```
inputDate=input("Enter date":)
print (convertDate(inputDate))
```

## Develop convertDate function below:

**8-** Write a **Python function** to process a set of homework grades.

- Your function must have a string parameter that you can assume contains some number of homework grades that could be **integers or floats**, and an integer parameter which is the total number of possible points earned.
- Your function must then compute and return the homework percentage, which is the sum of all the grades divided by the points possible, times 100.

  For example, the function call **hwperc("40.5 50 29.5 45", 200)**
  would return 82.5. (i.e. **(40.5+50+29.5+45)*100/200=82.5** )

Do not make any assumptions about how many values are in the string parameter but assume there is one blank character between each grade. Grades can be of any digits length. Write all the Python statements necessary to make this happen, in the **hwperc** method below.
Include assertions for your assumptions about the parameter values. Do not overly complicate this, but be careful with

```
def process(grades, points):
```