Assignment Questions:

1. Write a program to create a list containing the perfect numbers from 1 to 100

CODE:

```
list=[]
print("the list of perfect numbers between 1 to 100 are: ")
for n in range(1,101):
  sum=0
  for i in range(1,n):
    if(n%i==0):
      sum=sum+i
  if n==sum:
    list.append(n)
print(list)
```

OUTPUT:

```
the list of perfect numbers between 1 to 100 are:
[6, 28]
```

2. Write a program to take a number from the user and print the nearest palindrome.

CODE:

```
def test(n):
     count = 0
     while n:
          if str(n-count)==str(n-count)[::-1]:
              return n-count
          elif str(n+count)==str(n+count)[::-1]:
              return n+count
          count+=1

n =int(input("The input number is: "))
print("Closest Palindrome number of input number is: ",test(n))
```

OUTPUT:

```
The input number is: 120
Closest Palindrome number of input number is:  121
```

3. Create a list containing the following:

l = ['AI','MLClass','Python','InsideAIML']

Find the word which is the longest in the list and also display the index of the word.

CODE:

```
l = ['AI','MLClass','Python','InsideAIML']
for i in l:
  a=(max(l,key=len))
  print("The longest word in list is : ",a)
  print("The index of",a,"is: ",l.index(a))
  break
```

OUTPUT:

```
The longest word in list is :  InsideAIML
The index of InsideAIML is:  3
```

4. Write a Python program to get a string from a given string where all occurrencesof its first char have been changed to '#', except the first char. EG: 'restart' => 'resta#t'

CODE:

```
x=input("enter string: ")
for i in range(0,len(x)):
  s=x[0]
  if s in x:
    a=x.replace(s,"#")
    print("Output of enter string is: ",x[0]+a[1:])
    break
```

OUTPUT:

```
enter string: restart
Output of enter string is:  resta#t
```

5. Write a Python program to get a string made of the first 3 and the last 3 charsfrom a given a string. If the string length is less than 6, return empty string.

CODE:

```
s=input("The input string is: ")
for i in range(0,len(s)):
  if len(s) >= 6:
    print("The first 3 and last 3 charectors of given string are: ",
s[0:3],s[-3:])
    break
  if len(s) < 6:
    print("The string lenth less than 6 ")
    break
```

OUTPUT:

```
 The input string is: GANESH
The first 3 and last 3 charectors of given string are:  GAN ESH
```

6. Write a Python program to add 'ing' at the end of a given string (length should beat least 3). If the given string already ends with 'ing' then add 'ly' instead. If the string length of the given string is less than 3, leave it unchanged.

CODE:

```
def string(x):
  if len(x) >= 3:
    if x[-3:] == 'ing':
      x += 'ly'
    elif len(x)<3:
      print(x)
    else:
      x += 'ing'
  return x
x1=input("enter string for input x1 is: ")
x2=input("enter string for input x2 is: ")
x3=input("enter stringfor input x3 is: ")

print("output of input x1 is: ",string(x1))
print("output of input x2 is: ",string(x2))
print("output of input x3 is: ",string(x3))
```

OUTPUT:

```
enter string for input x1 is: hi
enter string for input x2 is: str
enter stringfor input x3 is: string
output of input x1 is:  hi
output of input x2 is:  string
output of input x3 is:  stringly
```