TD INFO06 – CORRECTION
LES BOUCLES IMBRIQUÉES

 # exercice n°1

```
for i in range(10):
     print(i,end=" ")
print("\n")

for i in range(10):
     print(i,end="")
print("\n")

for i in range(42,22,-1):
     print(i,end=" ")
print("\n")

for i in range(0,24,2):
     for j in range(3):
          print(i,end=" ")
print("\n")

for i in range(1,10):
     for j in range(i):
          print(i,end="")
     print(" ",end="")
print("\n")

for i in range(1,10):
     for j in range(i,0,-1):
          print(j,end="")
     print(" ",end="")
print("\n")
```

 # exercice n°2

```
def armstrong():
     L = []
     for c in range(1,10):              # c centaines
          for d in range(0,10):         # d dizaines
               for u in range(0,10):    # u unités
                    nb = 100*c+10*d+u
                    if nb == c**3+d**3+u**3:
                         L.append(nb)
     return L
```

 # exercice n°3

```
def different(L):
     for i in range(0,len(L)-1):
          for j in range(i+1,len(L)):
               if L[i] == L[j]:
                    return False
     return True
```

 # exercice n°4

```
def somme1(n):
     s = 0
     for i in range(1,n+1):
          for j in range(1,n+1):
               if i < j:
                    s = s + i
               else:
                    s = s + j
     return s

def somme2(n):
     s = 0
     for i in range(1,n+1):
          for j in range(i,n+1):
               s = s + i/j
     return s
```

 # exercice n°5

```
def nbpoints(r):
     s = 0
     for i in range(int(-r)-1,int(r)+1):
          for j in range(int(-r)-1,int(r)+1):
               if (i**2+j**2)**0.5 <= r:
                    s = s + 1
     return s
```

 # exercice n°6

```
def decompte():
     s = 0
     for dix in range(0,11):
          for cinq in range(0,21-2*dix):
               for deux in range(0,51-5*dix-2*cinq):
                    valeur = dix*10+cinq*5+deux*2
                    if valeur == 100:
                         print(str(dix)+"*10 + "+str(cinq)+"*5 + "+str(deux)+"*2 = 100")
                         s = s + 1
     return s
```