



**Instituto Tecnológico y de Estudios Superiores de  
Monterrey**  
**Escuela de Ingeniería y Ciencias**  
**Pruebas de software y aseguramiento de la calidad (Gpo 10)**

## **Tarea 4.2 Ejercicio de programación 1**

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## Problema 1: Compute Statistics

### Pylint computeStatistics

```
❶ (.venv) (base) ignacioaguilar@MacBook-Pro-de-Ignacio P1 % pylint computeStatistics.py

***** Module computeStatistics
computeStatistics.py:3:9: C0303: Trailing whitespace (trailing-whitespace)
computeStatistics.py:112:10: C0303: Trailing whitespace (trailing-whitespace)
computeStatistics.py:1:0: C0114: Missing module docstring (missing-module-docstring)
computeStatistics.py:1:0: C0103: Module name "computeStatistics" doesn't conform to snake_case naming style (invalid-name)
computeStatistics.py:34:11: W0718: Catching too general exception Exception (broad-exception-caught)
computeStatistics.py:69:0: R0913: Too many arguments (7/5) (too-many-arguments)
computeStatistics.py:69:0: R0917: Too many positional arguments (7/5) (too-many-positional-arguments)

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Your code has been rated at 8.91/10 (previous run: 9.06/10, -0.16)
```

### TC1

```
❶ (.venv) (base) ignacioaguilar@MacBook-Pro-de-Ignacio P1 % python computeStatistics.py TC1.txt

Total Numbers: 400
Mean: 242.32
Median: 239.50
Mode: 393.00
Variance: 21099.92
Standard Deviation: 145.26
Execution Time: 0.000526 seconds
```

### TC2

```
❶ (.venv) (base) ignacioaguilar@MacBook-Pro-de-Ignacio P1 % python computeStatistics.py TC2.txt

Total Numbers: 1977
Mean: 250.78
Median: 247.00
Mode: 230.00
Variance: 20785.37
Standard Deviation: 144.17
Execution Time: 0.002675 seconds
```

### TC3

```
❶ (.venv) (base) ignacioaguilar@MacBook-Pro-de-Ignacio P1 % python computeStatistics.py TC3.txt

Total Numbers: 12624
Mean: 249.78
Median: 249.00
Mode: 94.00
Variance: 21117.28
Standard Deviation: 145.32
Execution Time: 0.010310 seconds
```

### TC4

```
❶ (.venv) (base) ignacioaguilar@MacBook-Pro-de-Ignacio P1 % python computeStatistics.py TC4.txt

Total Numbers: 12624
Mean: 149.00
Median: 147.75
Mode: 123.75
Variance: 17007.92
Standard Deviation: 130.41
Execution Time: 0.010412 seconds
```

### TC5

```
❶ (.venv) (base) ignacioaguilar@MacBook-Pro-de-Ignacio P1 % python computeStatistics.py TC5.txt

Total Numbers: 309
Mean: 251.26
Median: 246.00
Mode: 393.00
Variance: 37942.03
Standard Deviation: 194.79
Execution Time: 0.000449 seconds
```

## TC6

```
● (.venv) (base) ignacioaguilar@MacBook-Pro-de-Ignacio P1 % python computeStatistics.py TC6.txt  
  
Total Numbers: 3000  
Mean: 187906599279774433280.00  
Median: 188008049965542998016.00  
Mode: 127620004531948994560.00  
Variance: 11530904699530651698658000239475661209600.00  
Standard Deviation: 107382050173810016256.00  
Execution Time: 0.003578 seconds
```

## TC7

```
● (.venv) (base) ignacioaguilar@MacBook-Pro-de-Ignacio P1 % python computeStatistics.py TC7.txt  
  
Total Numbers: 12767  
Mean: 247467395499716247552.00  
Median: 246640973074290016256.00  
Mode: 157638329490099011584.00  
Variance: 20910793147136529701595687680603951464448.00  
Standard Deviation: 144605647009847197696.00  
Execution Time: 0.013156 seconds
```

## Problema 2: Convert Numbers

### Pylint convertNumbers

```
● (.venv) (base) ignacioaguilar@MacBook-Pro-de-Ignacio P2 % pylint convertNumbers.py  
  
***** Module convertNumbers  
convertNumbers.py:89:0: C0301: Line too long (103/100) (line-too-long)  
convertNumbers.py:1:0: C0114: Missing module docstring (missing-module-docstring)  
convertNumbers.py:1:0: C0103: Module name "convertNumbers" doesn't conform to snake_case naming style (invalid-name)  
  
-----  
Your code has been rated at 9.62/10 (previous run: 9.74/10, -0.13)
```

## TC1

```

● (.venv) (base) ignacioaguilar@MacBook-Pro-de-Ignacio P2 % python convertNumbers.py TC1.txt
ITEM  TC1      BIN      Binary      Hexadecimal
-----
1      6980368    16        10000        10
2      5517055    255       11111111     FF
3      1336159    95        1011111      5F
4      6750185    233       11101001     E9
5      1771937    161       10100001     A1
6      360952     248       11111000     F8
7      5672561    113       1110001      71
8      916583     103       1100111      67
9      2700138    106       1101010      6A
10     9645053    253       11111101     FD
11     1181110    182       10110110     B6
12     1492185    217       11011001     D9
13     4018595    163       10100011     A3
14     7654888    232       11101000     E8
15     7062453    181       10110101     B5
16     2478010    186       10111010     BA
17     6134768    240       11110000     F0
18     8420417    65        1000001      41
19     2917489    113       1110001      71
20     3340773    229       11100101     E5
21     1115956    52        110100       34
22     9172192    224       11100000     E0
23     6271996    252       11111100     FC
24     8686939    91        1011011      5B
25     50986      42        101010       2A
26     9376410    154       10011010     9A
27     5962327    87        1010111      57
28     7686891    235       11101011     EB
29     6615183    143       10001111     8F
30     1864844    140       10001100     8C
31     3329962    170       10101010     AA
32     3942794    138       10001010     8A
33     2614836    52        110100       34
34     7406772    180       10110100     B4
35     2384190    62        111110       3E
36     398347     11        1011         B
37     8698503    135       10000111     87
38     9551696    80        1010000      50
39     1019556    164       10100100     A4
40     1677430    118       1110110      76
41     3479629    77        1001101      4D
42     9309008    80        1010000      50
43     5266170    250       11111010     FA
44     4094340    132       10000100     84
45     1754055    199       11000111     C7

```

## TC2

```

(.venv) (base) ignacioaguilar@MacBook-Pro-de-Ignacio P2 % python convertNumbers.py TC2.txt
ITEM  TC1      BIN      Binary      Hexadecimal
-----
1      7116776    232      11101000    E8
2      1666340    36        100100      24
3      8886983    199      11000111    C7
4      839365     197      11000101    C5
5      924280     120      1111000     78
6      1026310    6         110         6
7      1615293    189      10111101    BD
8      1063875    195      11000011    C3
9      679035     123      1111011     7B
10     5201970    50       110010      32
11     593979     59       111011      3B
12     801371     91       1011011     5B
13     3796878    142      10001110    8E
14     7489201    177      10110001    B1
15     9740020    244      11110100    F4
16     9128737    33       100001      21
17     5473463    183      10110111    B7
18     8701957     5        101         5
19     8238050    226      11100010    E2
20     8679038    126      1111110     7E
21     385912     120      1111000     78
22     5867340    76       1001100     4C
23     4894542    78       1001110     4E
24     8999451    27       11011       1B
25     4392535    87       1010111     57
26     2078131    179      10110011    B3
27     3070124    172      10101100    AC
28     7451998    94       1011110     5E
29     5635510    182      10110110    B6
30     1233932    12       1100        C
31     6089867    139      10001011    8B
32     1792316    60       111100      3C
33     6298637    13       1101        D
34     2408038    102      1100110     66
35     8510100    148      10010100     94
36     991581     93       1011101     5D
37     6455739    187      10111011    BB
38     7829175    183      10110111    B7
39     6328931    99       1100011     63
40     9982305    97       1100001     61
41     2292022    54       110110      36
42     1070496    160      10100000    A0
43     8518360    216      11011000    D8
44     6378470    230      11100110    E6
45     7756258    226      11100010    E2

```

## TC3

```

● (.venv) (base) ignacioaguilar@MacBook-Pro-de-Ignacio P2 % python convertNumbers.py TC3.txt
ITEM  TC1      BIN      Binary      Hexadecimal
-----
1      -39      217      11011001    D9
2      -36      220      11011100    DC
3       8       8       1000        8
4      34      34      100010      22
5      17      17      10001       11
6      49      49      110001      31
7       5       5       101         5
8      39      39      100111      27
9       0       0       0           0
10     33      33      100001      21
11     12      12      1100        C
12     -6     250     11111010    FA
13     27     27     11011       1B
14     -4     252     11111100    FC
15    -38     218     11011010    DA
16     26     26     11010       1A
17     49     49     110001      31
18     29     29     11101       1D
19     42     42     101010      2A
20    -16     240     11110000    F0
21    -28     228     11100100    E4
22     34     34     100010      22
23     20     20     10100       14
24      0      0       0           0
25     25     25     11001       19
26     45     45     101101      2D
27      3      3       11          3
28    -46     210     11010010    D2
29    -46     210     11010010    D2
30     29     29     11101       1D
31     33     33     100001      21
32     29     29     11101       1D
33     26     26     11010       1A
34     -5     251     11111011    FB
35    -36     220     11011100    DC
36     12     12     1100        C
37     45     45     101101      2D
38    -50     206     11001110    CE
39      0      0       0           0
40     -6     250     11111010    FA
41    -39     217     11011001    D9
42     35     35     100011      23
43     26     26     11010       1A
44    -35     221     11011101    DD
45    -42     214     11010110    D6

```

## TC4

```
-----
Execution Time: 0.000810 seconds
• (.venv) (base) ignacioaguilar@MacBook-Pro-de-Ignacio P2 % python convertNumbers.py TC4.txt
Skipping invalid line: 'ABC'
Skipping invalid line: 'ERR'
Skipping invalid line: 'VAL'
ITEM  TC1      BIN      Binary      Hexadecimal
-----
1      -39      217      11011001    D9
2      -36      220      11011100    DC
3       8       8       1000        8
4      34      34      100010      22
5      17      17      10001       11
6      49      49      110001      31
7       5       5       101         5
8       0       0        0          0
9      33      33      100001      21
10     12      12      1100        C
11     -6      250     11111010    FA
12     27      27      11011       1B
13     -4      252     11111100    FC
14    -38      218     11011010    DA
15     26      26      11010       1A
16     49      49      110001      31
17     29      29      11101       1D
18     42      42      101010      2A
19    -16      240     11110000    F0
20     34      34      100010      22
21     20      20      10100       14
22     0       0        0          0
23     25      25      11001       19
24     45      45      101101      2D
25     3       3        11         3
26    -46      210     11010010    D2
27    -46      210     11010010    D2
28     29      29      11101       1D
29     33      33      100001      21
30     29      29      11101       1D
31     26      26      11010       1A
32     -5      251     11111011    FB
33    -36      220     11011100    DC
34     12      12      1100        C
35     45      45      101101      2D
36    -50      206     11001110    CE
37     0       0        0          0
38     -6      250     11111010    FA
-----
Execution Time: 0.000422 seconds
```

## Problema 3: Convert Numbers

### Pylint convertNumbers

```
• (.venv) (base) ignacioaguilar@MacBook-Pro-de-Ignacio P3 % pylint wordCount.py

***** Module wordCount
wordCount.py:18:19: C0303: Trailing whitespace (trailing-whitespace)
wordCount.py:27:29: C0303: Trailing whitespace (trailing-whitespace)
wordCount.py:29:40: C0303: Trailing whitespace (trailing-whitespace)
wordCount.py:50:63: C0303: Trailing whitespace (trailing-whitespace)
wordCount.py:1:0: C0114: Missing module docstring (missing-module-docstring)
wordCount.py:1:0: C0103: Module name "wordCount" doesn't conform to snake_case naming style (invalid-name)
wordCount.py:33:12: C0200: Consider using enumerate instead of iterating with range and len (consider-using-enumerate)

-----
Your code has been rated at 8.83/10 (previous run: 8.83/10, +0.00)
```

## TC1

```
● (.venv) (base) ignacioaguilar@MacBook-Pro-de-Ignacio P3 % python wordCount.py TC1.tx
Word      Frequency
conservative 2
mother      1
tions      1
pin         1
sure        1
regulatory  1
shower      1
uni         1
dial        1
photography 1
buying      1
firms       1
nba         1
father      1
championship 1
vagina      1
fonts       1
sparc       1
explorer    1
rl          1
shadow      1
danish      1
seed        1
hiking      1
instrumentation 1
introduces  1
kinda       1
nor         1
newer       1
peter       1
contamination 1
permissions 1
recorded    1
cgi         1
confirm     1
hyundai     1
exhaust     1
malpractice 1
pens        1
potentially 1
glenn       1
scoring     1
andrews     1
assessed    1
adventures  1
meals       1
mortality   1
club        1
mon         1
comm        1
blues       1
collect     1
lies        1
seats       1
worse       1
guestbook   1
influences  1
kodak       1
significance 1
coastal     1
Total Words: 100
```



## TC2

```
• (.venv) (base) ignacioaguilar@MacBook-Pro-de-Ignacio P3 % python wordCount.py TC2.txt
Word Frequency
lease 4
brass 4
revenues 4
targeted 4
inflation 4
chain 4
holders 4
amongst 4
monaco 4
filme 4
doc 4
kingston 4
wood 3
pre 3
conduct 1
kuwait 1
literacy 1
table 1
parent 1
olympic 1
ht 1
algebra 1
ss 1
norm 1
females 1
sq 1
builders 1
nixon 1
corp 1
undo 1
tba 1
way 1
filter 1
win 1
attending 1
returned 1
anchor 1
sides 1
defence 1
biz 1
form 1
feeding 1
rentals 1
practical 1
steve 1
serious 1
mens 1
faculty 1
initiative 1
variety 1
ion 1
interface 1
remained 1
icons 1
excessive 1
jon 1
Total Words: 184
Execution Time: 0.000556 seconds
```

### TC3

```
● (.venv) (base) ignacioaguilar@MacBook-Pro-de-Ignacio P3 % python wordCount.py TC3.txt
```

Word	Frequency
------	-----------

notice	3
--------	---

flood	2
-------	---

pottery	2
---------	---

charity	2
---------	---

suggestion	2
------------	---

pairs	2
-------	---

blues	2
-------	---

pipe	2
------	---

thumb	2
-------	---

reveals	2
---------	---

copy	2
------	---

hurt	2
------	---

neighbors	1
-----------	---

manual	1
--------	---

political	1
-----------	---

mozambique	1
------------	---

old	1
-----	---

holding	1
---------	---

fc	1
----	---

ford	1
------	---

comparable	1
------------	---

nipples	1
---------	---

jane	1
------	---

holmes	1
--------	---

tea	1
-----	---

butler	1
--------	---

motels	1
--------	---

newfoundland	1
--------------	---

cutting	1
---------	---

clocks	1
--------	---

infrared	1
----------	---

cowboy	1
--------	---

hormone	1
---------	---

windsor	1
---------	---

census	1
--------	---

uc	1
----	---

declined	1
----------	---

index	1
-------	---

equipped	1
----------	---

src	1
-----	---

gradually	1
-----------	---

placing	1
---------	---

Total Words: 500

Execution Time: 0.002779 seconds

## TC4

```
● (.venv) (base) ignacioaguilar@MacBook-Pro-de-Ignacio P3 % python wordCount.py TC4.txt
Word Frequency
started 3
literally 2
ringtone 2
za 2
reached 2
crazy 2
javascript 2
annual 2
shown 2
supplier 2
physical 2
data 2
fought 2
dramatically 2
maiden 2
contains 2
panels 2
racial 2
charts 2
navy 2
tired 2
farm 2
commerce 1
offensive 1
updating 1
interaction 1
received 1
ma 1
hdtv 1
rates 1
powerful 1
was 1
computing 1
cells 1
contained 1
replaced 1
calling 1
mailman 1
extent 1
corpus 1
sv 1
wishlist 1
expired 1
circular 1
Total Words: 1000
Execution Time: 0.011087 seconds
```

## TC5

```
mods 1
philosophy 1
lc 1
throw 1
lifestyle 1
whats 1
microsoft 1
tom 1
proc 1
nano 1
letters 1
sri 1
tests 1
proceeds 1
seo 1
pounds 1
suggesting 1
texas 1
postposted 1
realty 1
vaccine 1
relocation 1
Total Words: 5000
Execution Time: 0.194350 seconds
```