

Screenshots of the output

1. Dataset with data of Words.txt 466549 and tested by inserted 50 elements to the array using all three strategy.

```
[(base) soundarya@Soundaryas-Air desktop % cd desktop
cd: no such file or directory: desktop
[(base) soundarya@Soundaryas-Air desktop % python DataStructure.py
Loaded 466549 words from the dataset.
```

-----*****----- Testing Incremental Strategy: -----*****-----

```
Insertions: 2, Time elapsed: 0.000019 seconds
Size: 2, Capacity: 2
Elements: 1080 -> 1080 -> 2 -> 2 -> 2
Resized to: 12

Insertions: 12, Time elapsed: 0.000196 seconds
Size: 12, Capacity: 12
Elements: &c -> 10th -> 16-point -> 2 -> 2,4-d
Resized to: 22

Insertions: 22, Time elapsed: 0.000229 seconds
Size: 22, Capacity: 22
Elements: &c -> 12-point -> 2,4-d -> 30-30 -> 48-point
Resized to: 32

Insertions: 32, Time elapsed: 0.000250 seconds
Size: 32, Capacity: 32
Elements: &c -> 1st -> 30-30 -> 4th -> 7th
Resized to: 42

Insertions: 42, Time elapsed: 0.000273 seconds
Size: 42, Capacity: 42
Elements: &c -> 2,4,5-t -> 48-point -> 7th -> a-
Resized to: 52
```

-----*****----- Testing Doubling Strategy: -----*****-----

```
Insertions: 2, Time elapsed: 0.000002 seconds
Size: 2, Capacity: 2
Elements: 1080 -> 1080 -> 2 -> 2 -> 2
Resized to: 4

Insertions: 4, Time elapsed: 0.000016 seconds
Size: 4, Capacity: 4
Elements: &c -> 10-point -> 1080 -> 2 -> 2
Resized to: 8

Insertions: 8, Time elapsed: 0.000031 seconds
Size: 8, Capacity: 8
Elements: &c -> 1080 -> 11-point -> 16-point -> 2
Resized to: 16

Insertions: 16, Time elapsed: 0.000046 seconds
Size: 16, Capacity: 16
Elements: &c -> 11-point -> 1st -> 20-point -> 30-30
Resized to: 32

Insertions: 32, Time elapsed: 0.000071 seconds
Size: 32, Capacity: 32
Elements: &c -> 1st -> 30-30 -> 4th -> 7th
Resized to: 64
```

```

-----*****----- Testing Fibonacci Strategy: -----*****-----
Insertions: 2, Time elapsed: 0.000001 seconds
Size: 2, Capacity: 2
Elements: 1080 -> 1080 -> 2 -> 2 -> 2
Resized to: 3

Insertions: 3, Time elapsed: 0.000014 seconds
Size: 3, Capacity: 3
Elements: &c -> &c -> 1080 -> 2 -> 2
Resized to: 5

Insertions: 5, Time elapsed: 0.000028 seconds
Size: 5, Capacity: 5
Elements: &c -> 10-point -> 1080 -> 10th -> 2
Resized to: 10

Insertions: 10, Time elapsed: 0.000040 seconds
Size: 10, Capacity: 10
Elements: &c -> 1080 -> 12-point -> 18-point -> 2
Resized to: 65

-----*****----- Testing Python's Built-in List: -----*****-----
Insertions: 10, Time elapsed: 0.000004 seconds
Insertions: 20, Time elapsed: 0.000009 seconds
Insertions: 30, Time elapsed: 0.000014 seconds
Insertions: 40, Time elapsed: 0.000019 seconds
Insertions: 50, Time elapsed: 0.000023 seconds
(base) soundarya@Soundaryas-Air desktop %

```

2. Dataset with data of words_alpha.txt 370099 and tested by inserted 50 elements to the array using all three strategy.

```

Last login: Tue Sep 24 14:38:15 on ttys001
(base) soundarya@Soundaryas-Air ~ % cd Desktop
(base) soundarya@Soundaryas-Air Desktop % cd PA_1
(base) soundarya@Soundaryas-Air PA_1 % python DataStructure.py
Loaded 370099 words from the dataset.

-----*****----- Testing Incremental Strategy: -----*****-----
Insertions: 2, Time elapsed: 0.000016 seconds
Size: 2, Capacity: 2
Elements: a -> a -> aa -> aa -> aa
Resized to: 12

Insertions: 12, Time elapsed: 0.000449 seconds
Size: 12, Capacity: 12
Elements: a -> aah -> aahs -> aaliis -> aam
Resized to: 22

Insertions: 22, Time elapsed: 0.000477 seconds
Size: 22, Capacity: 22
Elements: a -> aahing -> aam -> aardwolves -> aaronite
Resized to: 32

Insertions: 32, Time elapsed: 0.000501 seconds
Size: 32, Capacity: 32
Elements: a -> aalii -> aardwolves -> aarrghh -> ababdeh
Resized to: 42

Insertions: 42, Time elapsed: 0.000527 seconds
Size: 42, Capacity: 42
Elements: a -> aals -> aaronite -> ababdeh -> abacination
Resized to: 52

```

-----*****----- Testing Doubling Strategy: -----*****-----

Insertions: 2, Time elapsed: 0.000003 seconds
Size: 2, Capacity: 2
Elements: a -> a -> aa -> aa -> aa
Resized to: 4

Insertions: 4, Time elapsed: 0.000015 seconds
Size: 4, Capacity: 4
Elements: a -> aa -> aaa -> aah -> aah
Resized to: 8

Insertions: 8, Time elapsed: 0.000026 seconds
Size: 8, Capacity: 8
Elements: a -> aaa -> aahed -> aahs -> aal
Resized to: 16

Insertions: 16, Time elapsed: 0.000043 seconds
Size: 16, Capacity: 16
Elements: a -> aahed -> aalii -> aani -> aardwolf
Resized to: 32

Insertions: 32, Time elapsed: 0.000071 seconds
Size: 32, Capacity: 32
Elements: a -> aalii -> aardwolves -> aarrghh -> ababdeh
Resized to: 64

-----*****----- Testing Fibonacci Strategy: -----*****-----

Insertions: 2, Time elapsed: 0.000002 seconds
Size: 2, Capacity: 2
Elements: a -> a -> aa -> aa -> aa
Resized to: 3

Insertions: 3, Time elapsed: 0.000015 seconds
Size: 3, Capacity: 3
Elements: a -> a -> aa -> aaa -> aaa
Resized to: 5

Insertions: 5, Time elapsed: 0.000028 seconds
Size: 5, Capacity: 5
Elements: a -> aa -> aaa -> aah -> aahed
Resized to: 10

Insertions: 10, Time elapsed: 0.000042 seconds
Size: 10, Capacity: 10
Elements: a -> aaa -> aahing -> aal -> aaliis
Resized to: 65

-----*****----- Testing Python's Built-in List: -----*****-----

Insertions: 10, Time elapsed: 0.000003 seconds

Insertions: 20, Time elapsed: 0.000009 seconds

Insertions: 30, Time elapsed: 0.000013 seconds

Insertions: 40, Time elapsed: 0.000018 seconds

Insertions: 50, Time elapsed: 0.000022 seconds

(base) soundarya@Soundaryas-Air PA_1 %

3. Dataset with data of **word_list_moby_credits.txt** 26 and tested by inserted elements to the array using all three strategy.

```
(base) soundarya@Soundaryas-Air PA_1 % python DataStructure.py
Loaded 26 words from the dataset.

----- Testing Incremental Strategy: -----
Insertions: 2, Time elapsed: 0.000013 seconds
Size: 2, Capacity: 2
Elements: -> -> https://www.gutenberg.org/ebooks/3201 -> https://www.gutenberg.org/ebooks/3201 -> https://www.gutenberg.org/ebooks/3201
Resized to: 12

Insertions: 12, Time elapsed: 0.000516 seconds
Size: 12, Capacity: 12
Elements: -> Bibliographic Record [help] Creator      Ward, Grady -> Language English -> Release Date 2002-05-01 -> https://www.gutenberg.org/ebooks/3201
Resized to: 22

Insertions: 22, Time elapsed: 0.000547 seconds
Size: 22, Capacity: 22
Elements: -> Bibliographic Record [help] Creator      Ward, Grady -> Language English -> Release Date 2002-05-01 -> https://www.gutenberg.org/ebooks/3201
Resized to: 32

----- Testing Doubling Strategy: -----
Insertions: 2, Time elapsed: 0.000002 seconds
Size: 2, Capacity: 2
Elements: -> -> https://www.gutenberg.org/ebooks/3201 -> https://www.gutenberg.org/ebooks/3201 -> https://www.gutenberg.org/ebooks/3201
Resized to: 4

Insertions: 4, Time elapsed: 0.000015 seconds
Size: 4, Capacity: 4
Elements: -> -> Moby Word Lists by Grady Ward -> https://www.gutenberg.org/ebooks/3201 -> https://www.gutenberg.org/ebooks/3201
Resized to: 8

Insertions: 8, Time elapsed: 0.000029 seconds
Size: 8, Capacity: 8
Elements: -> -> Help -> Title Moby Word Lists -> https://www.gutenberg.org/ebooks/3201
Resized to: 16

Insertions: 16, Time elapsed: 0.000046 seconds
Size: 16, Capacity: 16
Elements: -> -> Help -> Release Date 2002-05-01 -> https://www.gutenberg.org/ebooks/3201
Resized to: 32

----- Testing Fibonacci Strategy: -----
Insertions: 2, Time elapsed: 0.000002 seconds
Size: 2, Capacity: 2
Elements: -> -> https://www.gutenberg.org/ebooks/3201 -> https://www.gutenberg.org/ebooks/3201 -> https://www.gutenberg.org/ebooks/3201
Resized to: 3

Insertions: 3, Time elapsed: 0.000014 seconds
Size: 3, Capacity: 3
Elements: -> -> -> https://www.gutenberg.org/ebooks/3201 -> https://www.gutenberg.org/ebooks/3201
Resized to: 5

Insertions: 5, Time elapsed: 0.000026 seconds
Size: 5, Capacity: 5
Elements: -> -> -> Moby Word Lists by Grady Ward -> https://www.gutenberg.org/ebooks/3201
Resized to: 10

Insertions: 10, Time elapsed: 0.000041 seconds
Size: 10, Capacity: 10
Elements: -> -> Language      English -> Moby Word Lists by Grady Ward -> https://www.gutenberg.org/ebooks/3201
Resized to: 65

----- Testing Python's Built-in List: -----
Insertions: 10, Time elapsed: 0.000003 seconds

Insertions: 20, Time elapsed: 0.000008 seconds
(base) soundarya@Soundaryas-Air PA_1 %
```