

# Лабораторна робота 1

“Автоматичний режим “benchmark” з вимірами ефективності роботи різних механізмів зберігання”

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ІПС-11

## 1) Геометрична прогресія

```
Input mode of work
i - interactive
d - demonstration
b - benchmark
b
Write count of element:
10
===== BENCHMARK =====
GENERETE DATA: Time: 1 milliseconds

===== FILE TIME =====
FILE TXT WRITE: Time: 0 milliseconds
FILE TXT READ: Time: 6 milliseconds

FILE BIN WRITE: Time: 0 milliseconds
FILE BIN READ: Time: 6 milliseconds

===== SEARCH TIME =====
END FRAG SEARCH: Time: 0 milliseconds
MEASURE SEARCH: Time: 0 milliseconds
PERIOD SEARCH: Time: 0 milliseconds
===== TOTAL =====
Time taken by program: 17 milliseconds

===== FILE SIZE =====
Size of TXT file 'Data.txt': 425 bytes
Size of BIN file 'BinData.bin': 412 bytes
PS D:\Programing\GitHub\University\First-Year>
```

```
Input mode of work
i - interactive
d - demonstration
b - benchmark
b
Write count of element:
100
===== BENCHMARK =====
GENERETE DATA: Time: 18 milliseconds

===== FILE TIME =====
FILE TXT WRITE: Time: 0 milliseconds
FILE TXT READ: Time: 8 milliseconds

FILE BIN WRITE: Time: 0 milliseconds
FILE BIN READ: Time: 9 milliseconds

===== SEARCH TIME =====
END FRAG SEARCH: Time: 0 milliseconds
MEASURE SEARCH: Time: 0 milliseconds
PERIOD SEARCH: Time: 0 milliseconds
===== TOTAL =====
Time taken by program: 41 milliseconds

===== FILE SIZE =====
Size of TXT file 'Data.txt': 4376 bytes
Size of BIN file 'BinData.bin': 4273 bytes
PS D:\Programing\GitHub\University\First-Year>
```

```
Input mode of work
i - interactive
d - demonstration
b - benchmark
b
Write count of element:
1000
===== BENCHMARK =====
GENERETE DATA: Time: 129 milliseconds

===== FILE TIME =====
FILE TXT WRITE: Time: 1 milliseconds
FILE TXT READ: Time: 32 milliseconds

FILE BIN WRITE: Time: 1 milliseconds
FILE BIN READ: Time: 30 milliseconds

===== SEARCH TIME =====
END FRAG SEARCH: Time: 0 milliseconds
MEASURE SEARCH: Time: 0 milliseconds
PERIOD SEARCH: Time: 0 milliseconds
===== TOTAL =====
Time taken by program: 201 milliseconds

===== FILE SIZE =====
Size of TXT file 'Data.txt': 44722 bytes
Size of BIN file 'BinData.bin': 43719 bytes
PS D:\Programing\GitHub\University\First-Year>
```

```
Input mode of work
i - interactive
d - demonstration
b - benchmark
b
Write count of element:
5000
===== BENCHMARK =====
GENERETE DATA: Time: 744 milliseconds

===== FILE TIME =====
FILE TXT WRITE: Time: 5 milliseconds
FILE TXT READ: Time: 108 milliseconds

FILE BIN WRITE: Time: 4 milliseconds
FILE BIN READ: Time: 98 milliseconds

===== SEARCH TIME =====
END FRAG SEARCH: Time: 0 milliseconds
MEASURE SEARCH: Time: 0 milliseconds
PERIOD SEARCH: Time: 0 milliseconds
===== TOTAL =====
Time taken by program: 964 milliseconds

===== FILE SIZE =====
Size of TXT file 'Data.txt': 227367 bytes
Size of BIN file 'BinData.bin': 222364 bytes
PS D:\Programing\GitHub\University\First-Year>
```

## 2) Арифметична прогресія (>1с)

```

Input mode of work
i - interactive
d - demonstration
b - benchmark
b
Write count of element:
10000
===== BENCHMARK =====
GENERETE DATA: Time: 1513 milliseconds

===== FILE TIME =====
FILE TXT WRITE: Time: 9 milliseconds
FILE TXT READ: Time: 196 milliseconds

FILE BIN WRITE: Time: 9 milliseconds
FILE BIN READ: Time: 192 milliseconds

===== SEARCH TIME =====
END FRAG SEARCH: Time: 0 milliseconds
MEASURE SEARCH: Time: 0 milliseconds
PERIOD SEARCH: Time: 0 milliseconds
===== TOTAL =====
Time taken by program: 1926 milliseconds

===== FILE SIZE =====
Size of TXT file 'Data.txt': 455552 bytes
Size of BIN file 'BinData.bin': 445549 bytes
PS D:\Programing\GitHub\University\First-Year>

```

```

Input mode of work
i - interactive
d - demonstration
b - benchmark
b
Write count of element:
15000
===== BENCHMARK =====
GENERETE DATA: Time: 1936 milliseconds

===== FILE TIME =====
FILE TXT WRITE: Time: 16 milliseconds
FILE TXT READ: Time: 343 milliseconds

FILE BIN WRITE: Time: 14 milliseconds
FILE BIN READ: Time: 311 milliseconds

===== SEARCH TIME =====
END FRAG SEARCH: Time: 0 milliseconds
MEASURE SEARCH: Time: 0 milliseconds
PERIOD SEARCH: Time: 0 milliseconds
===== TOTAL =====
Time taken by program: 2628 milliseconds

===== FILE SIZE =====
Size of TXT file 'Data.txt': 688427 bytes
Size of BIN file 'BinData.bin': 673424 bytes
PS D:\Programing\GitHub\University\First-Year>

```

```

Input mode of work
i - interactive
d - demonstration
b - benchmark
b
Write count of element:
20000
===== BENCHMARK =====
GENERETE DATA: Time: 3237 milliseconds

===== FILE TIME =====
FILE TXT WRITE: Time: 25 milliseconds
FILE TXT READ: Time: 679 milliseconds

FILE BIN WRITE: Time: 25 milliseconds
FILE BIN READ: Time: 589 milliseconds

===== SEARCH TIME =====
END FRAG SEARCH: Time: 2 milliseconds
MEASURE SEARCH: Time: 2 milliseconds
PERIOD SEARCH: Time: 5 milliseconds
===== TOTAL =====
Time taken by program: 4571 milliseconds

===== FILE SIZE =====
Size of TXT file 'Data.txt': 921867 bytes
Size of BIN file 'BinData.bin': 901864 bytes
PS D:\Programing\GitHub\University\First-Year>

```

```

Input mode of work
i - interactive
d - demonstration
b - benchmark
b
Write count of element:
25000
===== BENCHMARK =====
GENERETE DATA: Time: 3723 milliseconds

===== FILE TIME =====
FILE TXT WRITE: Time: 36 milliseconds
FILE TXT READ: Time: 941 milliseconds

FILE BIN WRITE: Time: 31 milliseconds
FILE BIN READ: Time: 748 milliseconds

===== SEARCH TIME =====
END FRAG SEARCH: Time: 4 milliseconds
MEASURE SEARCH: Time: 5 milliseconds
PERIOD SEARCH: Time: 2 milliseconds
===== TOTAL =====
Time taken by program: 5498 milliseconds

===== FILE SIZE =====
Size of TXT file 'Data.txt': 1155663 bytes
Size of BIN file 'BinData.bin': 1130660 bytes
PS D:\Programing\GitHub\University\First-Year>

```

```

Input mode of work
i - interactive
d - demonstration
b - benchmark
b
Write count of element:
30000
===== BENCHMARK =====
GENERETE DATA: Time: 4332 milliseconds

===== FILE TIME =====
FILE TXT WRITE: Time: 46 milliseconds
FILE TXT READ: Time: 1106 milliseconds

FILE BIN WRITE: Time: 41 milliseconds
FILE BIN READ: Time: 748 milliseconds

===== SEARCH TIME =====
END FRAG SEARCH: Time: 1 milliseconds
MEASURE SEARCH: Time: 1 milliseconds
PERIOD SEARCH: Time: 1 milliseconds
===== TOTAL =====
Time taken by program: 6282 milliseconds

===== FILE SIZE =====
Size of TXT file 'Data.txt': 1389230 bytes
Size of BIN file 'BinData.bin': 1359227 bytes
PS D:\Programing\GitHub\University\First-Year>

```

```

Input mode of work
i - interactive
d - demonstration
b - benchmark
b
Write count of element:
35000
===== BENCHMARK =====
GENERETE DATA: Time: 8235 milliseconds

===== FILE TIME =====
FILE TXT WRITE: Time: 46 milliseconds
FILE TXT READ: Time: 1027 milliseconds

FILE BIN WRITE: Time: 33 milliseconds
FILE BIN READ: Time: 772 milliseconds

===== SEARCH TIME =====
END FRAG SEARCH: Time: 1 milliseconds
MEASURE SEARCH: Time: 1 milliseconds
PERIOD SEARCH: Time: 8 milliseconds
===== TOTAL =====
Time taken by program: 10131 milliseconds

===== FILE SIZE =====
Size of TXT file 'Data.txt': 1621607 bytes
Size of BIN file 'BinData.bin': 1586604 bytes
PS D:\Programing\GitHub\University\First-Year>

```

```

Input mode of work
i - interactive
d - demonstration
b - benchmark
b
Write count of element:
40000
===== BENCHMARK =====
GENERETE DATA: Time: 10192 milliseconds

===== FILE TIME =====
FILE TXT WRITE: Time: 70 milliseconds
FILE TXT READ: Time: 2045 milliseconds

FILE BIN WRITE: Time: 47 milliseconds
FILE BIN READ: Time: 910 milliseconds

===== SEARCH TIME =====
END FRAG SEARCH: Time: 2 milliseconds
MEASURE SEARCH: Time: 1 milliseconds
PERIOD SEARCH: Time: 1 milliseconds
===== TOTAL =====
Time taken by program: 13277 milliseconds

===== FILE SIZE =====
Size of TXT file 'Data.txt': 1854960 bytes
Size of BIN file 'BinData.bin': 1814957 bytes
PS D:\Programing\GitHub\University\First-Year>

```

```

Input mode of work
i - interactive
d - demonstration
b - benchmark
b
Write count of element:
45000
===== BENCHMARK =====
GENERETE DATA: Time: 10151 milliseconds

===== FILE TIME =====
FILE TXT WRITE: Time: 86 milliseconds
FILE TXT READ: Time: 1939 milliseconds

FILE BIN WRITE: Time: 60 milliseconds
FILE BIN READ: Time: 1514 milliseconds

===== SEARCH TIME =====
END FRAG SEARCH: Time: 7 milliseconds
MEASURE SEARCH: Time: 8 milliseconds
PERIOD SEARCH: Time: 8 milliseconds
===== TOTAL =====
Time taken by program: 13783 milliseconds

===== FILE SIZE =====
Size of TXT file 'Data.txt': 2088396 bytes
Size of BIN file 'BinData.bin': 2043393 bytes
PS D:\Programing\GitHub\University\First-Year>

```