

C#

Sprawozdanie Laboratorium 4

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1.1

a. Nie można modyfikować parametrów podanych jako typ *in* do funkcji.

b.

```
C:\Users\Artur\OneDrive - Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie\sem_JI\c#\lab_4\Lab4\Ex1\bin\Debug\Ex1.exe
In: 0
Out: 5
Ref: 5
No key word: 0
```

c. nie można przekazać short do funkcji z *out/ref* gdy oczekują *int*

d. Nie można zdefiniować identycznych metod różniących się słówkami *out/ref*


```
// Compiler error CS0663: "Cannot define overloaded
// methods that differ only on ref and out".
```

e.

```
C:\Users\Artur\OneDrive - Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie\sem_JI\c#\lab_4\Lab4\Ex1\bin\Debug\Ex1.exe
In: 0
In: 0
Out: 0
Out: 5
Ref: 0
Ref: 5
No key word: 0
No key word: 0
```

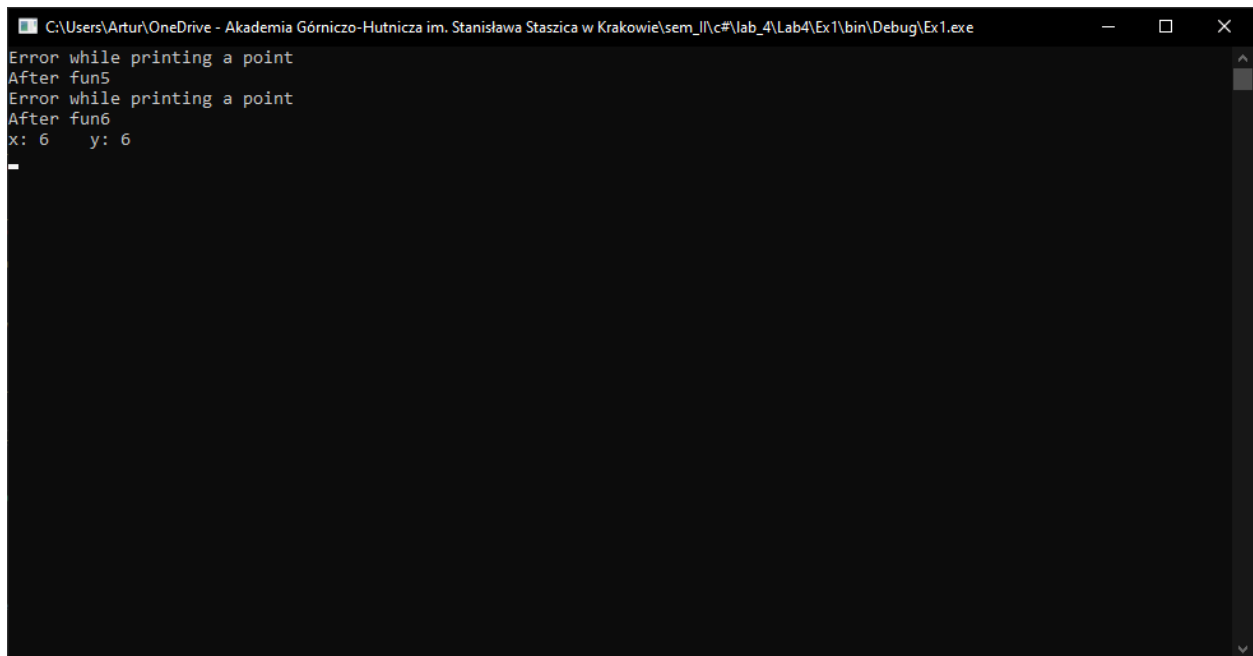
1.2

b.



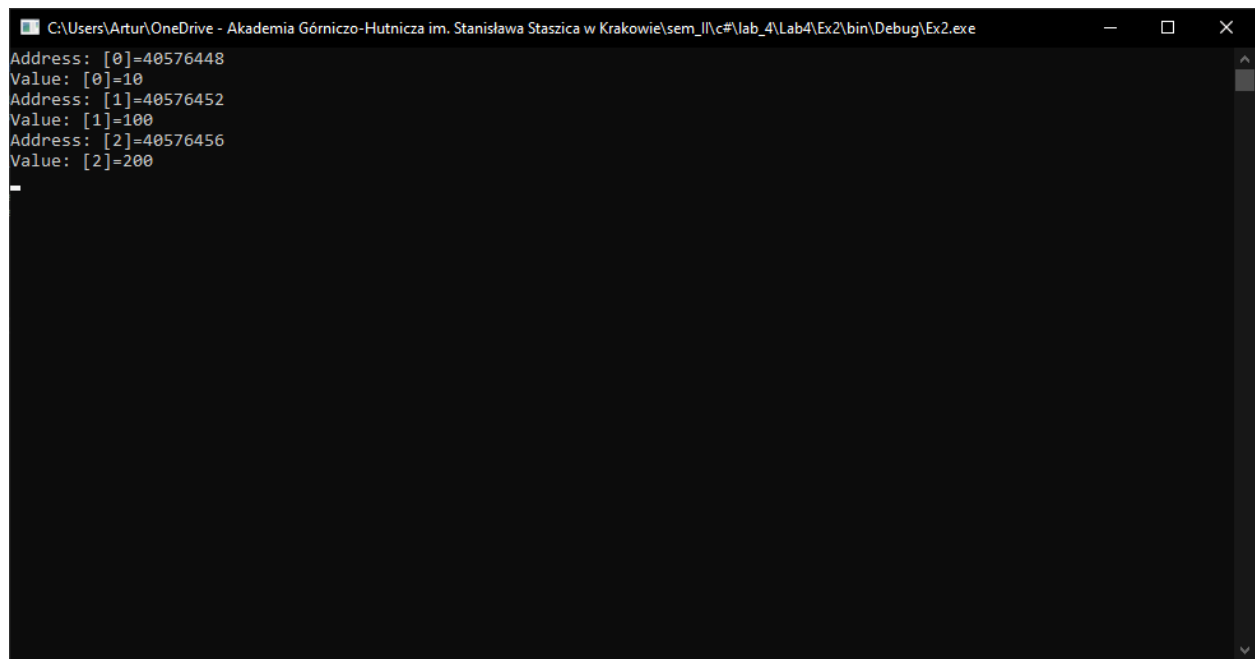
```
C:\Users\Artur\OneDrive - Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie\sem_II\c#\lab_4\Lab4\Ex1\bin\Debug\Ex1.exe
x: 1 y: 1
After fun5
x: 1 y: 1
After fun6
x: 6 y: 6
```

d.



```
C:\Users\Artur\OneDrive - Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie\sem_II\c#\lab_4\Lab4\Ex1\bin\Debug\Ex1.exe
Error while printing a point
After fun5
Error while printing a point
After fun6
x: 6 y: 6
```

2

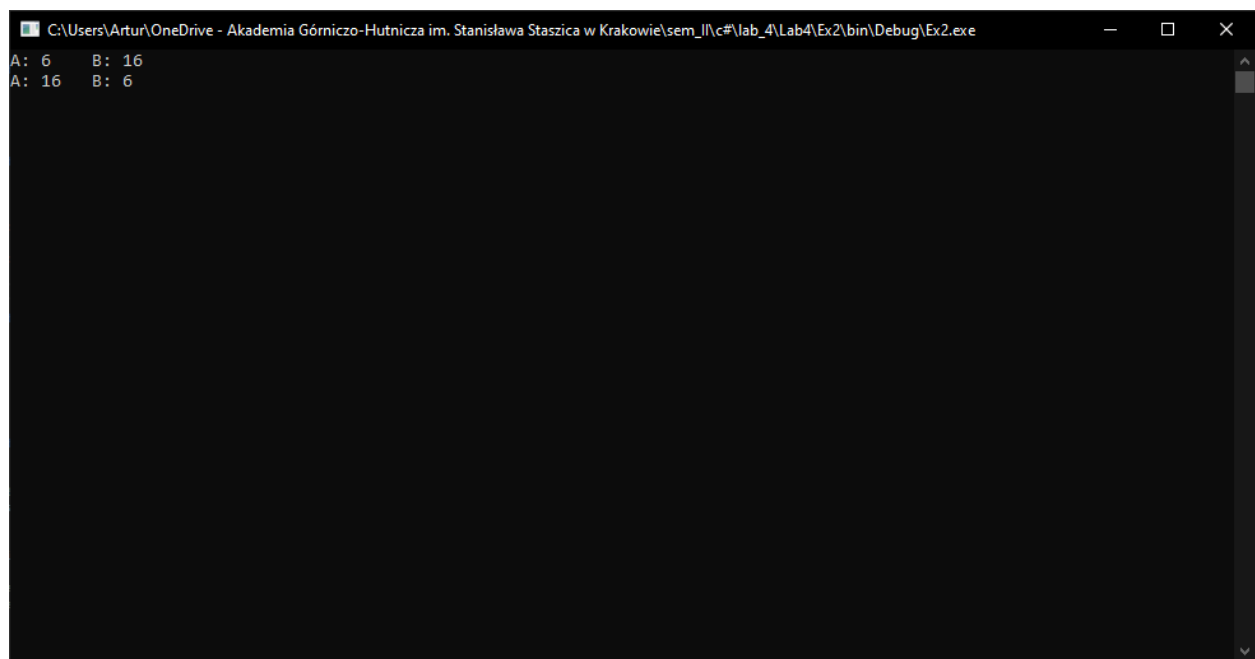


A screenshot of a debugger window titled "C:\Users\Artur\OneDrive - Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie\sem_II\c#\lab_4\Lab4\Ex2\bin\Debug\Ex2.exe". The window displays a list of memory addresses and their corresponding values. The first three entries are: Address: [0]=40576448, Value: [0]=10; Address: [1]=40576452, Value: [1]=100; and Address: [2]=40576456, Value: [2]=200. A small cursor is visible on the line following the third entry.

```
C:\Users\Artur\OneDrive - Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie\sem_II\c#\lab_4\Lab4\Ex2\bin\Debug\Ex2.exe
Address: [0]=40576448
Value: [0]=10
Address: [1]=40576452
Value: [1]=100
Address: [2]=40576456
Value: [2]=200
-
```

Po usunięciu słowa *unsave* nie można wykonać operacji na wskaźnikach

2.2



A screenshot of a debugger window titled "C:\Users\Artur\OneDrive - Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie\sem_II\c#\lab_4\Lab4\Ex2\bin\Debug\Ex2.exe". The window displays the values of registers A and B. The first line shows A: 6 and B: 16. The second line shows A: 16 and B: 6, indicating a swap of values.

```
C:\Users\Artur\OneDrive - Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie\sem_II\c#\lab_4\Lab4\Ex2\bin\Debug\Ex2.exe
A: 6    B: 16
A: 16   B: 6
```

Wartości zostały zamienione

2.3

```
C:\Users\Artur\OneDrive - Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie\sem_I\c#\lab_4\Lab4\Ex2\bin\Debug\Ex2.exe
Value: 488
Value: 489
Value: 490
Value: 491
Value: 492
Value: 493
Value: 494
Value: 495
Value: 496
Value: 497
Value: 498
Value: 499
Value: 500
Value: 501
Value: 502
Value: 503
Value: 504
Value: 505
Value: 506
Value: 507
Value: 508
Value: 509
Value: 510
Value: 511
Value: 512
Value: 513
Value: 514
Value: 515
Value: 516
```

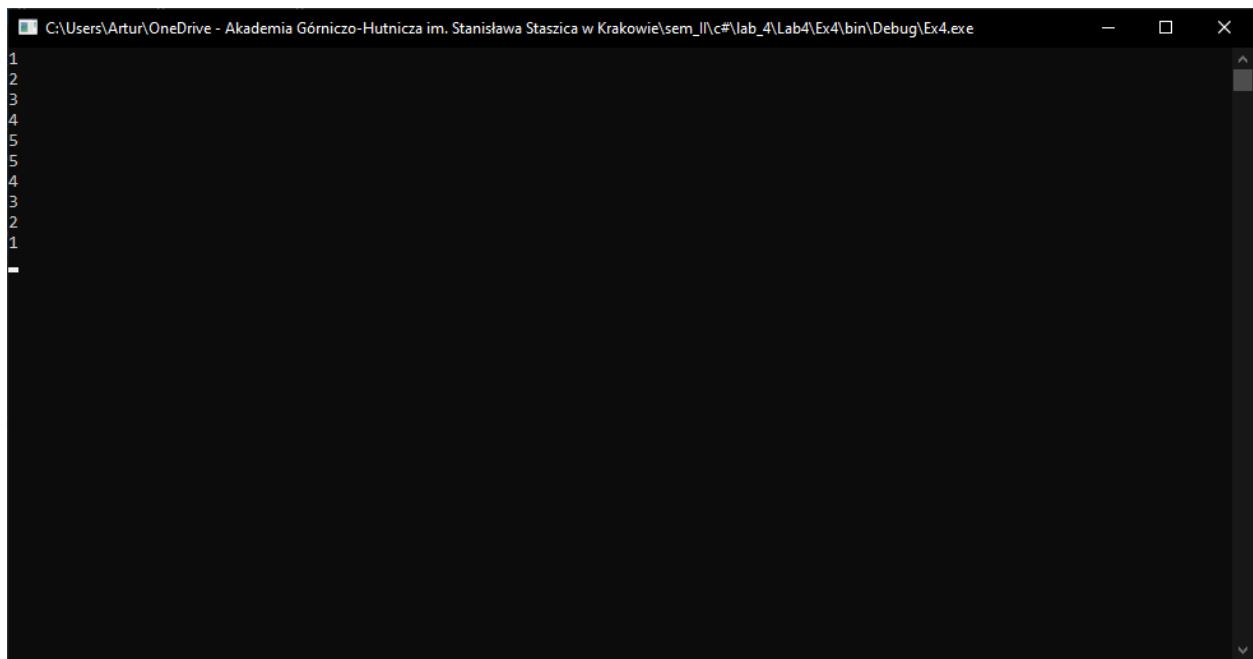
3

```
C:\Users\Artur\OneDrive - Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie\sem_I\c#\lab_4\Lab4\Ex3\bin\Debug\Ex3.exe
a
g
w
v
a

is
is
wa
g
w
a
g
w
v
a

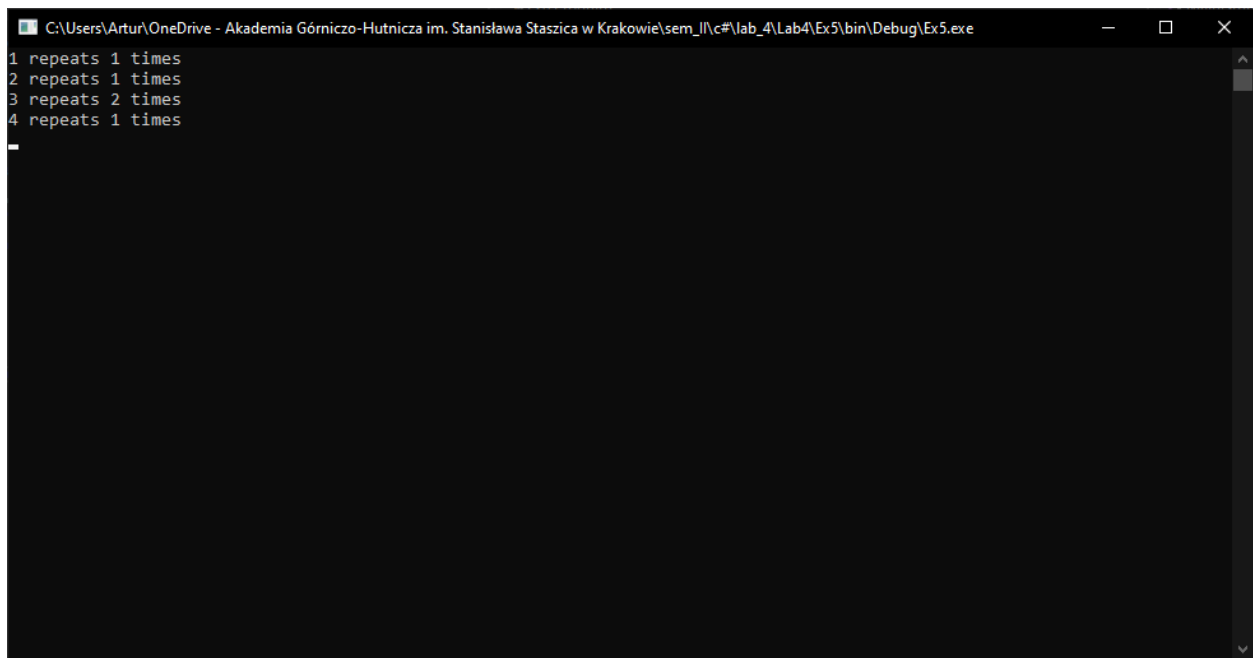
awesome
awesome
is
wa
g
w
a
g
w
v
a
```

4



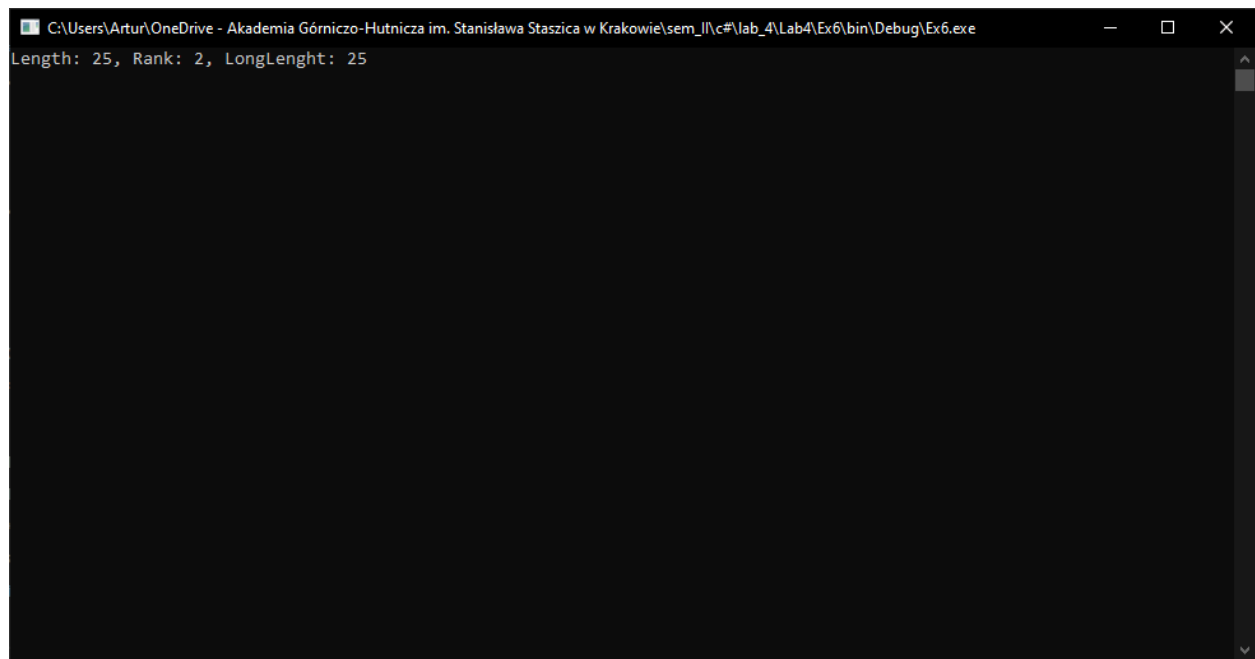
```
C:\Users\Artur\OneDrive - Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie\sem_II\c#\lab_4\Lab4\Ex4\bin\Debug\Ex4.exe
1
2
3
4
5
5
4
3
2
1
_
```

5



```
C:\Users\Artur\OneDrive - Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie\sem_II\c#\lab_4\Lab4\Ex5\bin\Debug\Ex5.exe
1 repeats 1 times
2 repeats 1 times
3 repeats 2 times
4 repeats 1 times
_
```

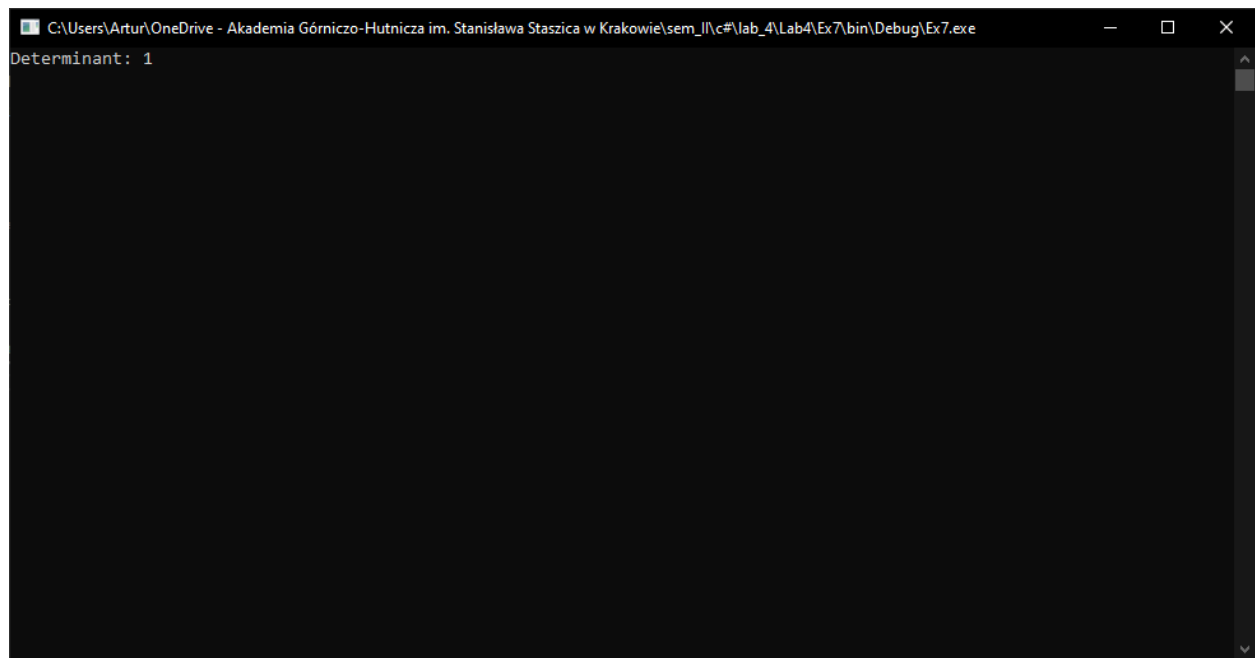
6



A screenshot of a Windows command prompt window. The title bar shows the file path: C:\Users\Artur\OneDrive - Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie\sem_II\c#\lab_4\Lab4\Ex6\bin\Debug\Ex6.exe. The window contains the text: Length: 25, Rank: 2, LongLenght: 25. The text is displayed in a monospaced font on a black background.

```
C:\Users\Artur\OneDrive - Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie\sem_II\c#\lab_4\Lab4\Ex6\bin\Debug\Ex6.exe
Length: 25, Rank: 2, LongLenght: 25
```

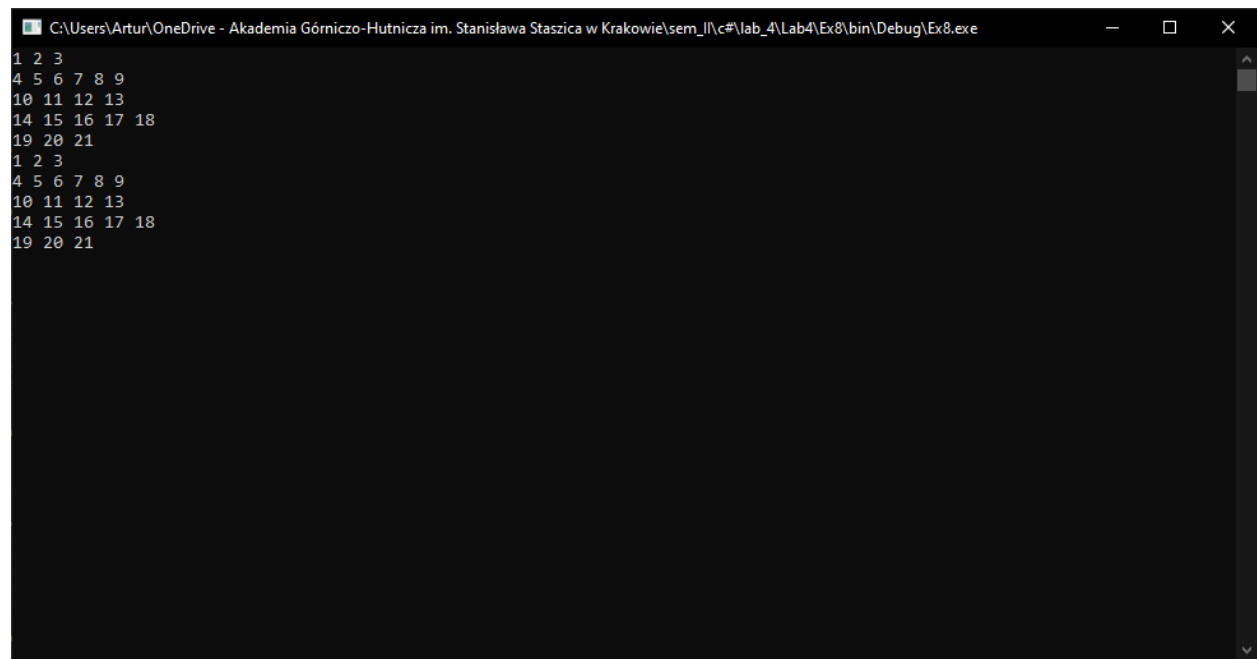
7



A screenshot of a Windows command prompt window. The title bar shows the file path: C:\Users\Artur\OneDrive - Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie\sem_II\c#\lab_4\Lab4\Ex7\bin\Debug\Ex7.exe. The window contains the text: Determinant: 1. The text is displayed in a monospaced font on a black background.

```
C:\Users\Artur\OneDrive - Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie\sem_II\c#\lab_4\Lab4\Ex7\bin\Debug\Ex7.exe
Determinant: 1
```

8



A screenshot of a Windows command prompt window. The title bar at the top reads "C:\Users\Artur\OneDrive - Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie\sem_II\c#\lab_4\Lab4\Ex8\bin\Debug\Ex8.exe". The window contains a list of numbers arranged in five groups, each on a new line. The first group consists of 1 2 3, 4 5 6 7 8 9, 10 11 12 13, 14 15 16 17 18, and 19 20 21. The second group consists of 1 2 3, 4 5 6 7 8 9, 10 11 12 13, 14 15 16 17 18, and 19 20 21. The window has a dark background and a vertical scrollbar on the right side.

```
1 2 3
4 5 6 7 8 9
10 11 12 13
14 15 16 17 18
19 20 21
1 2 3
4 5 6 7 8 9
10 11 12 13
14 15 16 17 18
19 20 21
```