

*lab 04 - 25.03.'24*

**1.Rozwiążania zadań z lab 01**

**TO DO:**

**2.kontynuacja pracy z plikiem z poprzednich zajęć**

**3.zadania (5 sztuk) - od slajdu 27**

*105*

```
file = open("Numbers.txt", "w")
file.write("4, ")
file.write("6, ")
file.write("10, ")
file.write("8, ")
file.write("5, ")
file.close()
```

*106*

```
file = open("Names.txt", "w")
file.write("Bob\n")
file.write("Tom\n")
file.write("Gemma\n")
file.write("Sarah\n")
file.write("Timothy\n")
file.close()
```

*107*

```
file = open("Names.txt", "r")
print(file.read())
file.close()
```

*108*

```
file = open("Names.txt", "a")
newname = input("Enter a new name: ")
file.write(newname + "\n")
file.close
```

```
file = open("Names.txt", "r")
print(file.read())
file.close
```

**109**

```
print ("1) Create a new file")
print ("2) Display the file")
print ("3) Add a new item to the file")
selection = int(input("Make a selection 1, 2 or 3: "))
if selection == 1:
    subject = input("Enter a school subject: ")
    file = open("Subject.txt", "w")
    file.write(subject + "\n")
    file.close()
elif selection == 2:
    file = open("Subject.txt", "r")
    print(file.read())
elif selection == 3:
    file = open("Subject.txt", "a")
    subject = input("Enter a school subject: ")
    file.write(subject + "\n")
    file.close()
    file = open("Subject.txt", "r")
    print(file.read())
else:
    print("Invalid option")
```

**110**

```
file = open("Names.txt", "r")
print(file.read())
file.close()

file = open("Names.txt", "r")
selectedname = input("Enter a name from the list: ")
selectedname = selectedname + "\n"
for row in file:
    if row != selectedname:
        file = open("Names2.txt", "a")
        newrecord = row
        file.write(newrecord)
        file.close()
file.close()
```

111

```
import csv

file = open("Books.csv", "w")
newrecord = "To Kill A Mockingbird, Harper Lee, 1960\n"
file.write(str(newrecord))
newrecord = "A Brief History of Time, Stephen Hawking, 1988\n"
file.write(str(newrecord))
newrecord = "The Great Gatsby, F. Scott Fitzgerald, 1922\n"
file.write(str(newrecord))
newrecord = "The Man Who Mistook His Wife for a Hat, Oliver Sacks, 1985\n"
file.write(str(newrecord))
newrecord = "Pride and Prejudice, Jane Austen, 1813\n"
file.write(str(newrecord))
file.close()
```

112

```
import csv

file = open("Books.csv", "a")
title = input("Enter a title: ")
author = input("Enter author: ")
year = input("Enter the year it was released: ")
newrecord = title + "," + author + ", " + year + "\n"
file.write(str(newrecord))
file.close()

file = open("Books.csv", "r")
for row in file:
    print(row)
file.close()
```

113

```
import csv

num = int(input("How many books do you want to add to the list? "))
file = open("Books.csv", "a")
for x in range(0, num):
    title = input("Enter a title: ")
    author = input("Enter author: ")
    year = input("Enter the year it was released: ")
    newrecord = title + "," + author + ", " + year + "\n"
    file.write(str(newrecord))
file.close()

searchauthor = input("Enter an authors name to search for: ")

file = open("Books.csv", "r")
count = 0
for row in file:
    if searchauthor in str(row):
        print(row)
        count = count + 1
if count == 0:
    print ("There are no books by that author in this list.")
file.close()
```

114

```
import csv

start = int(input("Enter a starting year: "))
end = int(input("Enter an end year: "))

file = list(csv.reader(open("Books.csv")))
tmp = []
for row in file:
    tmp.append(row)

x = 0
for row in tmp:
    if int(tmp[x][2]) >= start and int(tmp[x][2]) <=end:
        print(tmp[x])
    x = x+1
```

```
1 from csv import reader
2
3 # read csv file as a list of lists
4 with open('students.csv', 'r') as read_obj:
5     # pass the file object to reader() to get the
6     csv_reader = reader(read_obj)
7     # Pass reader object to list() to get a list of
8     list_of_rows = list(csv_reader)
9     print(list_of_rows)
```

Output:

```
1 [[{'Id': '21', 'Name': 'Mark', 'Course': 'Python', 'City': 'London', 'Session': 'Morning'}, {'Id': '22', 'Name': 'John', 'Course': 'Python', 'City': 'Tokyo', 'Session': 'Evening'}, {'Id': '23', 'Name': 'Sam', 'Course': 'Python', 'City': 'Paris', 'Session': 'Morning'}, {'Id': '32', 'Name': 'Shaun', 'Course': 'Java', 'City': 'Tokyo', 'Session': 'Morning'}]]
```

*115*

```
import csv

file = open("Books.csv", "r")
x = 0
for row in file:
    display = "Row: " + str(x) + " - " + row
    print(display)
    x = x + 1
```

```
import csv

file = list(csv.reader(open("Books.csv")))
Booklist = []
for row in file:
    Booklist.append(row)

x = 0
for row in Booklist:
    display = x,Booklist[x]
    print(display)
    x = x + 1
getrid = int(input("Enter a row number to delete: "))
del Booklist[getrid]

x = 0
for row in Booklist:
    display = x,Booklist[x]
    print(display)
    x = x + 1
alter = int(input("Enter a row number to alter: "))
x = 0
for row in Booklist[alter]:
    display = x,Booklist[alter][x]
    print(display)
    x = x + 1
part = int(input("Which part do you want to change? "))
newdata = input("Enter new data: ")
Booklist[alter][part] = newdata
print(Booklist[alter])

file = open("Books.csv", "w")
x = 0
for row in Booklist:
    newrecord = Booklist[x][0] + ", " + Booklist[x][1] + ", " + Booklist[x][2] + "\n"
    file.write(newrecord)
    x = x+1
file.close()
```

117

```
import csv
import random

score = 0
name = input("What is your name: ")
q1_num1 = random.randint(10,50)
q1_num2 = random.randint(10,50)
question1 = str(q1_num1) + " + " + str(q1_num2) + " = "
ans1 = int(input(question1))
realans1 = q1_num1+q1_num2
if ans1 == realans1:
    score = score + 1
q2_num1 = random.randint(10,50)
q2_num2 = random.randint(10,50)
question2 = str(q2_num1) + " + " + str(q2_num2) + " = "
ans2 = int(input(question2))
realans2 = q2_num1+q2_num2
if ans2 == realans2:
    score = score + 1

file = open("QuizScore.csv","a")
newrecord = name+","+question1+","+str(ans1)+","+question2+","+str(ans2)+","+str(score)+"\n"
file.write(str(newrecord))

file.close()
```

*IZO*

```
def ask_value():
    num = int(input("Enter a number: "))
    return num

def count(num):
    n = 1
    while n <= num:
        print(n)
        n = n + 1

def main():
    num = ask_value()
    count(num)

main()
```

```
import random

def pick_num():
    low = int(input("Enter the bottom of the range: "))
    high = int(input("Enter the top of the range: "))
    comp_num = random.randint(low,high)
    return comp_num

def first_guess():
    print("I am thinking of a number...")
    guess = int(input("What am I thinking of: "))
    return guess

def check_answer(comp_num,guess):
    try_again = True
    while try_again == True:
        if comp_num == guess:
            print("Correct, you win.")
            try_again = False
        elif comp_num > guess:
            guess = int(input("Too low, try again: "))
        else:
            guess = int(input("Too high, try again: "))

def main():
    comp_num = pick_num()
    guess = first_guess()
    check_answer(comp_num,guess)

main()
```

```
import random

def addition():
    num1 = random.randint(5,20)
    num2 = random.randint(5,20)
    print(num1, "+", num2, "= ")
    user_answer = int(input("Your answer: "))
    actual_answer = num1 + num2
    answers = (user_answer, actual_answer)
    return answers

def subtraction():
    num3 = random.randint(25,50)
    num4 = random.randint(1,25)
    print(num3, "-", num4, "= ")
    user_answer = int(input("Your answer: "))
    actual_answer = num3 - num4
    answers = (user_answer, actual_answer)
    return answers

def check_answer(user_answer, actual_answer):
    if user_answer == actual_answer:
        print("Correct")
    else:
        print("Incorrect, the answer is", actual_answer)

def main():
    print("1) Addition")
    print("2) Subtraction")
    selection = int(input("Enter 1 or 2: "))
    if selection == 1:
        user_answer, actual_answer = addition()
        check_answer(user_answer,actual_answer)
    elif selection == 2:
        user_answer, actual_answer = subtraction()
        check_answer(user_answer,actual_answer)
    else:
        print("Incorrect selection")

main()
```

```
def add_name():
    name = input("Enter a new name: ")
    names.append(name)
    return names

def change_name():
    num = 0
    for x in names:
        print(num,x)
        num = num + 1
    select_num = int(input("Enter the number of the name you want to change: "))
    name = input("Enter new name: ")
    names[select_num] = name
    return names

def delete_name():
    num = 0
    for x in names:
        print(num,x)
        num = num + 1
    select_num = int(input("Enter the number of the name you want to delete: "))
    del names[select_num]
    return names

def view_names():
    for x in names:
        print(x)
    print()

def main():
    again = "y"
    while again == "y":
        print("1) Add a name")
        print("2) Change a name")
        print("3) Delete a name")
        print("4) View names")
        print("5) Quit")
        selection = int(input("What do you want to do? "))
        if selection == 1:
            names = add_name()
        elif selection == 2:
            names = change_name()
        elif selection == 3:
            names = delete_name()
        elif selection == 4:
            names = view_names()
        elif selection == 5:
            again = "n"
        else:
            print("Incorrect option: ")
    data = (names,again)

names = []
main()
```

122

```
import csv

def addtofile():
    file = open("Salaries.csv", "a")
    name = input("Enter name: ")
    salary = int(input("Enter salary: "))
    newrecord = name + ", " + str(salary) + "\n"
    file.write(str(newrecord))
    file.close()

def viewrecords():
    file = open("Salaries.csv", "r")
    for row in file:
        print(row)
    file.close()

tryagain = True
while tryagain == True:
    print("1) Add to file")
    print("2) View all records")
    print("3) Quit program")
    print()
    selection = input("Enter the number of your selection: ")
    if selection == "1":
        addtofile()
    elif selection == "2":
        viewrecords()
    elif selection == "3":
        tryagain = False
    else:
        print("Incorrect option")
```

```
import csv

def addtofile():
    file = open("Salaries.csv", "a")
    name = input("Enter name: ")
    salary = int(input("Enter salary: "))
    newrecord = name + ", " + str(salary) + "\n"
    file.write(str(newrecord))
    file.close()

def viewrecords():
    file = open("Salaries.csv", "r")
    for row in file:
        print(row)
    file.close()

def deleterecord():
    file = open("Salaries.csv", "r")
    x = 0
    tmplist = []
    for row in file:
        tmplist.append(row)
    file.close()
    for row in tmplist:
        print(x, row)
        x = x + 1
    rowtodelete = int(input("Enter the row number to delete: "))
    del tmplist[rowtodelete]
    file = open("Salaries.csv", "w")
    for row in tmplist:
        file.write(row)
    file.close()

tryagain = True
while tryagain == True:
    print("1) Add to file")
    print("2) View all records")
    print("3) Delete a record")
    print("4) Quit program")
    print()
    selection = input("Enter the number of your selection: ")
    if selection == "1":
        addtofile()
    elif selection == "2":
        viewrecords()
    elif selection == "3":
        deleterecord()
    elif selection == "4":
        tryagain = False
    else:
        print("Incorrect option")
```

### ◎ Goal

Given a **string**, you must output if its content is an **integer**, a **float** or a **string**.

#### Input

**Line 1:** A string **string** to analyse

---

#### Output

**Line 1:** The type : **integer, float, string**

---

#### Constraints

$1 \leq \text{string} \leq 100$

---

#### Example

Input

2018

Output

integer

```
p = input
s=p()
if s.isdigit():
    p('integer')
elif s.replace ('.', '').isdigit() and s.count (".")<2:
    p('float')
else:
    p('string')
```

```
string = input()
try:
    str(int(string))
    print("integer")
except ValueError:
    try:
        str (float(string))
        print("float")
    except ValueError:
        print("string")
```

125

You receive **4 integers**.

**a** is the **starting number**.

**b** is the **increment** in between numbers.

**c** is the **number of numbers per line**.

**d** is the **number of lines**

---

#### Input

```
15  
2  
5  
3
```

---

#### Output

```
15 17 19 21 23  
25 27 29 31 33  
35 37 39 41 43
```

---

#### Constraints

```
a > 0  
b > 0  
c > 0  
d > 0
```

```
#odstepy miedzy wierszami sa wieksze
for i in range (d):
    for j in range (c):
        print(a, end=" ")
        a = a+b
    print("\n")
```

```
a = int(input())
b = int(input())
c = int(input())
d = int(input())

for _ in range (d):
    w=[ ]
    for _ in range(c):
        w.append(a)
        a+=b
    print(*w)
```

126

The game mode is **REVERSE**: You do not have access to the statement. You have to guess what to do by observing the following set of tests:

01 Test 1

Input

Hello World!

Expected output

HheElLlLoO WwoOrRlLdD!

02 Test 2

Input

I haVe A pEN

Expected output

Ii hHaAVveE Aa pPEeNn

03 Test 3

Input

Letter case is the distinction be

Expected output

LleEtTtTeErR cCaAsSeE iIsS tThHeE

04 Test 4

Input

Of the seven SI base-unit symbols

Expected output

Ooff tThHeE sSeEvVeEnN SsIi bBaAs

```
s = input()
for i in s:
    if i.isalpha():
        if i.islower():
            print(i+i.upper(),end="")
        else:
            print(i+i.lower(),end="")
    else:
        print(i,end="")
```

```
for c in input():
    if not c.isalpha():
        print(c,end="")
    else:
        print(c+(c.upper() if c.islower() else c.lower()),end="")
```

```
s = input()
n=""
for c in s:
    n+=c
    if c.islower():
        n+=c.upper()
    elif c.isupper():
        n+=c.lower()
print(n)
```

# task 01

Declan: Who the hell are you?

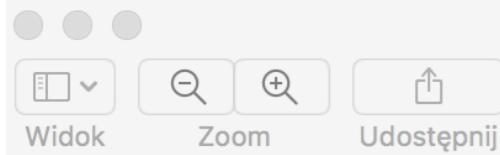
Walt: You know. You all know exactly who I am. Say my name.

Declan: What? I don't have a damn clue who the hell you are.

Walt: Yeah, you do. I'm the cook. I'm the man who killed Gus Fring.

Declan: Bullshit. Cartel got Fring.

Walt: Are you sure? That's right. Now. Say my name.



## Input

Heisenberg

## Output

4

## Constraints

Tip: output the count of letters 'e' case independently plus one

## Example

### Input

Heisenberg

### Output

4

c.d

## task 02

*następna strona*

The game mode is **REVERSE** : You do not have access to the statement. You have to guess what to do by observing the following set of tests:

01 Test 1

Input

4

Expected output

3142

02 Test 2

Input

9

Expected output

975318642

03 Test 3

Input

36

Expected output

353331292725232119171513119753136343230282624222018161412108642

```
1 import sys
2 import math
3
4 # Auto-generated code below aims at helping you parse
5 # the standard input according to the problem statement.
6
7 n = int(input())
8
9 # Write an answer using print
10 # To debug: print("Debug messages...", file=sys.stderr, flush=True)
11
12 print("list")
13
```

c.d

## Task 03

*następna strona*

The game mode is **REVERSE** : You do not have access to the statement. You have to guess what to do by observing the following set of tests:

01 Test 1

Input

code

Expected output

odec  
deco  
ecod  
code

02 Test 2

Input

flip

Expected output

lipf  
ipfl  
pfli  
flip

```
1 import sys
2 import math
3
4 # Auto-generated code below aims at helping you parse
5 # the standard input according to the problem statement.
6
7 word = input()
8
9 # Write an answer using print
10 # To debug: print("Debug messages...", file=sys.stderr, flush=True)
11
12 print("answer")
13
```

## task 04

c.d. nastepna strona

The game mode is **REVERSE**: You do not have access to the statement. You have to guess what to do by observing the following set of tests:

01 Test 1

Input

1

Expected output

#

02 Test 2

Input

3

Expected output

#  
##  
###  
##  
#

03 Test 3

Input

6

Expected output

#  
##  
###  
####  
#####  
#####  
####  
###  
##  
#

```
1 import sys
2 import math
3
4 # Auto-generated code below aims at helping you parse
5 # the standard input according to the problem statement.
6
7 n = int(input())
8
9 # Write an answer using print
10 # To debug: print("Debug messages...", file=sys.stderr, flush=True)
11
12 print("answer")
13
```

## task 05

c.d. na następnej stronie

For each successive couple of characters ( $a, b$ ) of the input string  $s$  add to the output a string of  $a$  times character  $b$ .

### Input

$s$  a string of digits (leading 0 allowed), whose length is always even.

### Output

Another string of digits following the stated rules.

### Constraints

length of  $s$  is always even  
leading 0 are allowed in  $s$

### Example

#### Input

1234

#### Output

2444

```
1 import sys
2 import math
3
4 # Auto-generated code below aims at helping you parse
5 # the standard input according to the problem statement.
6
7 s = input() # length always even
8
9 # Write an answer using print
10 # To debug: print("Debug messages...", file=sys.stderr, flush=True)
11
12 print("solution")
13
```