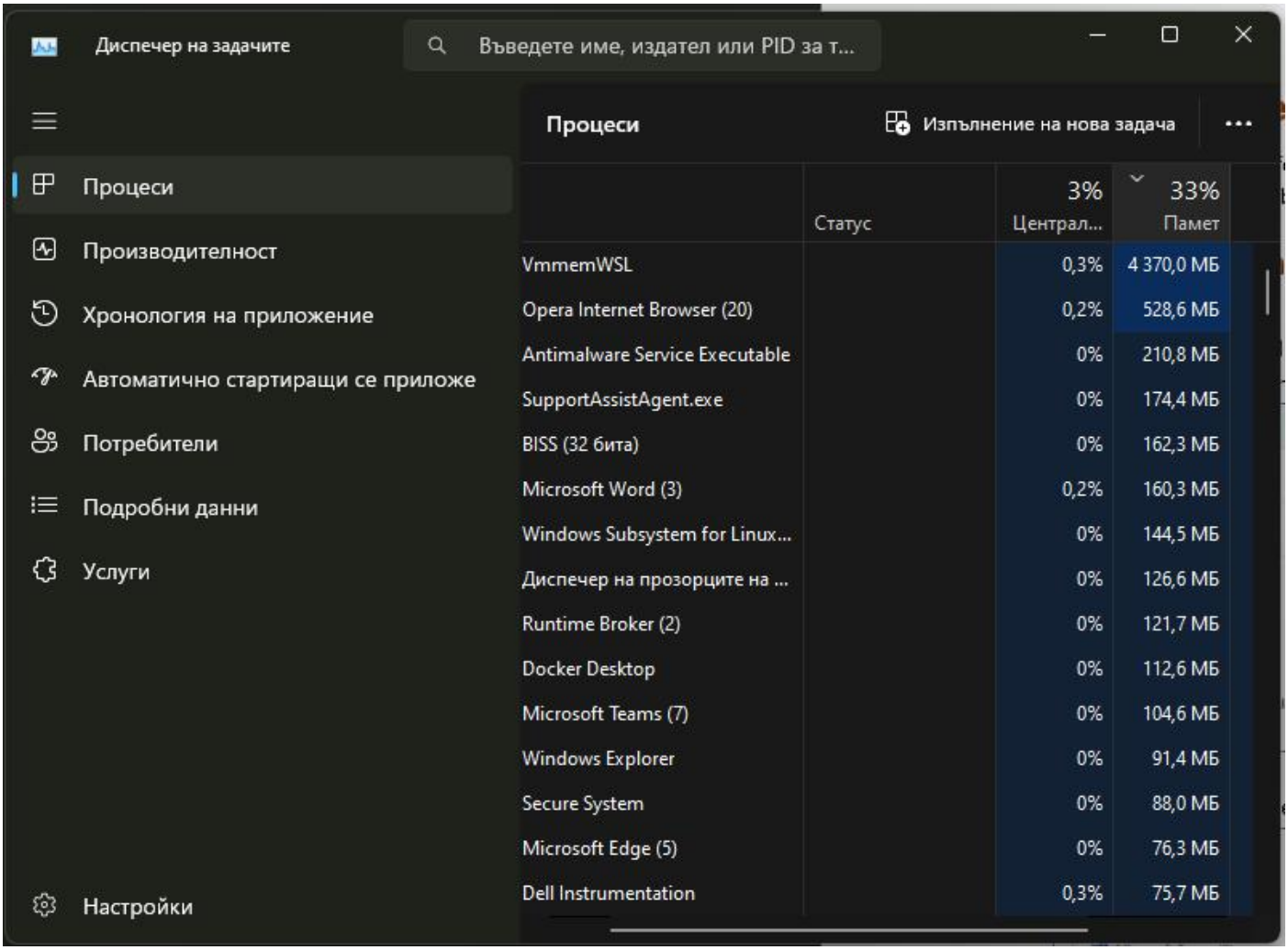
Homework: Operating Systems

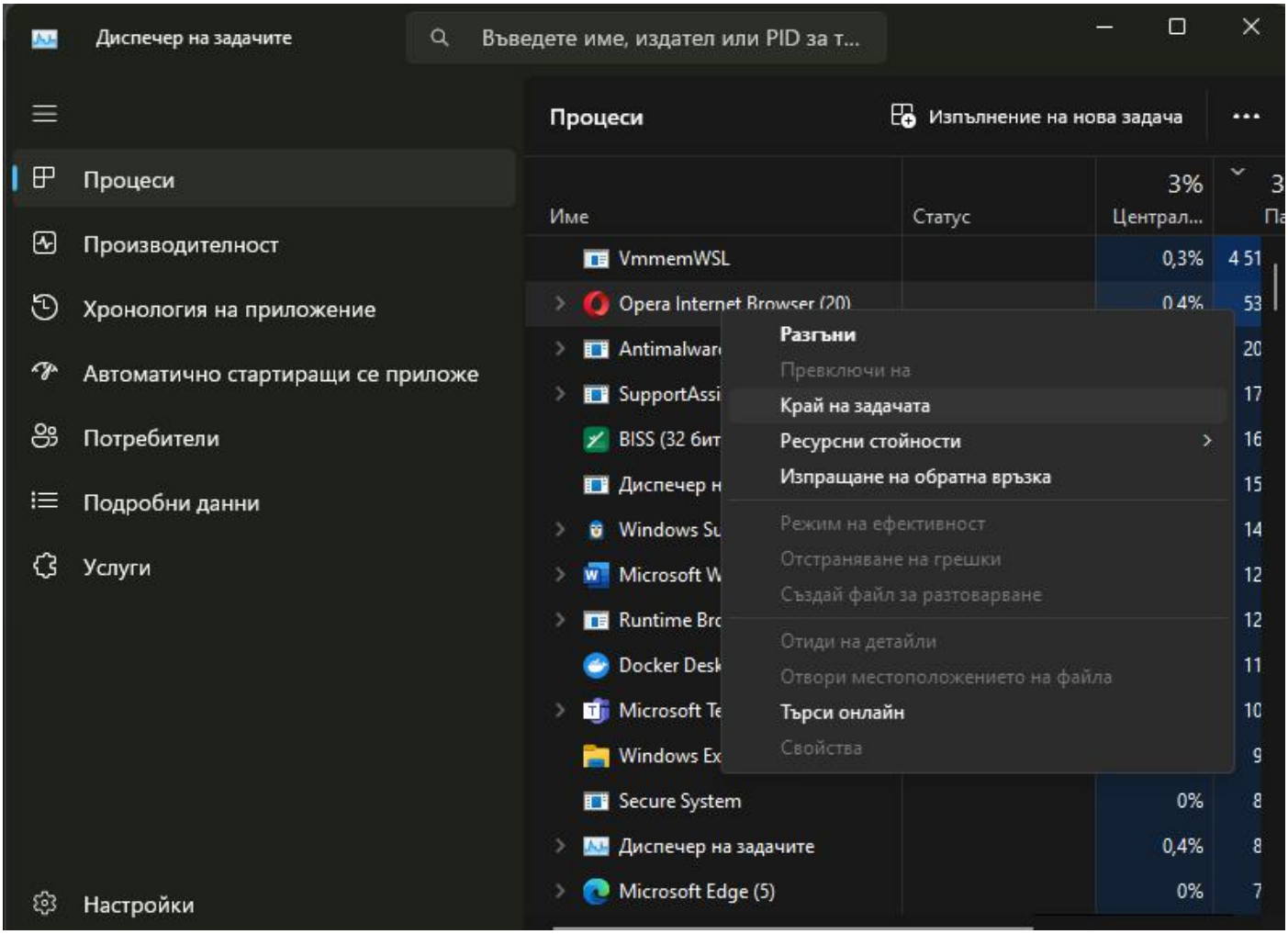
Problems for homework for the "Software Technologies" course @ Software University.
Submit this document as your homework.

1. Work with Task Manager in Windows

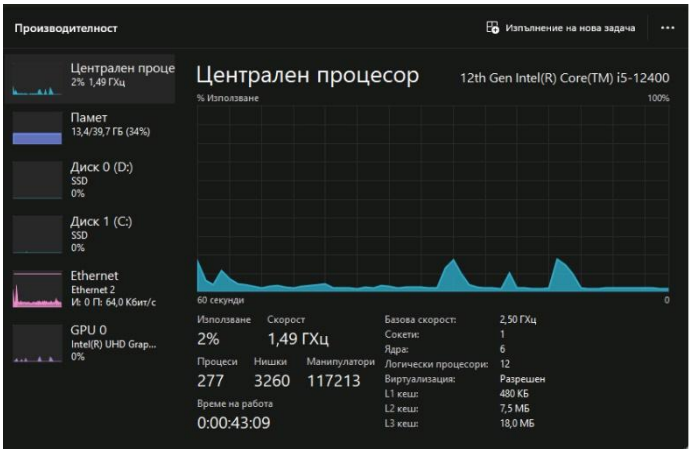
1. **View processes:**
    - Open Task Manager and view the list of running processes.
    - Identify any processes that are using a high amount of CPU or RAM.

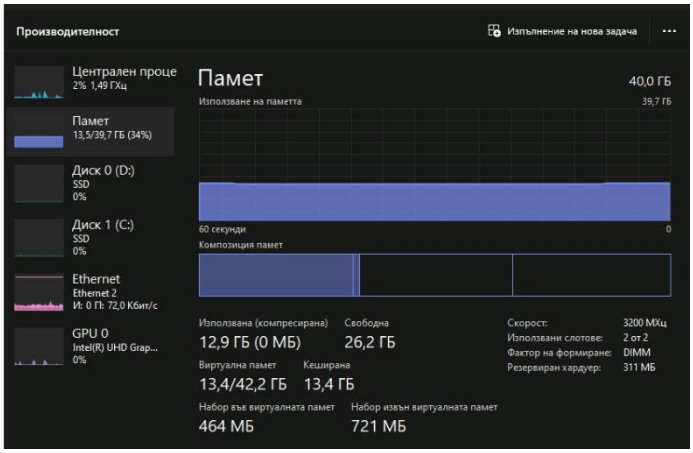


2. **Kill a process:**
    - Select a process from the list and end the task.



3. **View CPU & RAM usage:**
    - Navigate to the Performance tab in Task Manager and view the CPU & Memory usage.





! **Replace all pictures with screenshots from your PC.**

2. Play with Windows Terminal

1. **Navigate Directories:**
    - Use the "**cd**" command to navigate to different directories in the Windows Terminal:
        - ➢Desktop
        - ➢Documents

➢Downloads

```
PS C:\Users\Simeon> cd C:\users\Simeon\Desktop
```

```
PS C:\Users\Simeon> cd C:\users\Simeon\Documents
```

```
PS C:\Users\Simeon> cd C:\users\Simeon\Downloads
```

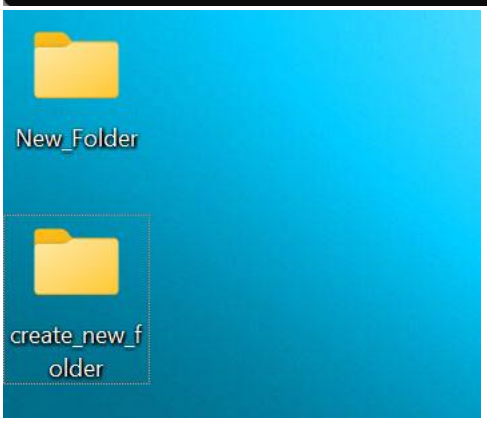
- Example (make screenshots of all three directories):

```
PS C:\Users\krass> cd C:\users\krass\Desktop
```

- Create folder named My_SoftUni_Repo on the Desktop through the Terminal.
- Example:

```
    Directory: C:\users\krass\Desktop


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
d-----         5/12/2023   1:43 PM                New_Folder


PS C:\users\krass\Desktop>
```

```
PS C:\users\krass\Desktop> mkdir create_new_folder


    Directory: C:\users\krass\Desktop


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
d-----         5/12/2023   1:45 PM                create_new_folder


PS C:\users\krass\Desktop>
```



- Enter the created folder through the Terminal and make a screenshot:

```
    Directory: C:\users\Simeon\Desktop


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
d-r---      20.5.2023 г.     19:55                Нова nanka
-a----      20.5.2023 г.     17:52         624603 04-Operating-Systems-Homework-Simeon_Rodopski.docx


PS C:\users\Simeon\Desktop> mkdir My_SoftUni_Repo


    Directory: C:\users\Simeon\Desktop


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
d-----      20.5.2023 г.     19:57                My_SoftUni_Repo


PS C:\users\Simeon\Desktop> cd My_SoftUni_Repo
PS C:\users\Simeon\Desktop\My_SoftUni_Repo>
```

! **Replace all pictures with screenshots from your PC.**

3. Play with Docker Playground & Run a Linux Shell inside

1. **Run your own container in Docker Playground and make an HTTP request from Linux Shell:**
   - Your task is to run a new docker container and make an HTTP request to the following API: https://api.zippopotam.us/
   - Extend the URL with "**de**" for Germany, and find a valid postal code that you can use to extract information from the API.
   - Replace the example images with your own screenshots.
   - Examples:

```
[node1] (local) root@192.168.0.18 ~
$ curl -s https://api.zippopotam.us/de/01847 | jq
{
  "post code": "01847",
  "country": "Germany",
  "country abbreviation": "DE",
  "places": [
    {
      "place name": "Lohmen",
      "longitude": "14",
      "state": "Sachsen",
      "state abbreviation": "SN",
      "latitude": "50.9833"
    }
  ]
}
[node1] (local) root@192.168.0.18 ~
$ curl -s https://api.zippopotam.us/de/01987 | jq
{
  "post code": "01987",
  "country": "Germany",
  "country abbreviation": "DE",
  "places": [
    {
      "place name": "Schwarzheide",
      "longitude": "13.868",
      "state": "Brandenburg",
      "state abbreviation": "BB",
      "latitude": "51.4653"
    }
  ]
}
```