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Click or tap here to enter text.

**Using Mozilla Firefox is strongly recommended for this Activity because it can transform JSON responses into a human readable format.** (Raw Data > "Pretty Print") (#)*is**points for API and Time Zone questions.*

1. (5) What is sent via the API from one system to another? What is sent back?

API sends: a single request to another system to make some changes or updates of data

Sent back: a response code to the requesting system with confirmation of what the data has changed to.

2. (5) Use api.agify.io to predict the age of a person using your given name and an ISO country code

API URL request: . https://api.agify.io/?name=vrunda&country\_id=IN

JSON response: {

"count": 11,

"name": "vrunda",

"age": 30,

"country\_id": "IN"

}

3. (5) Use the time zone API request at worldtimeapi.org

API URL request: http://worldtimeapi.org/api/timezone/Africa/Nairobi

JSON response:

{

"abbreviation": "EAT",

"client\_ip": "2607:fea8:635d:c100:18ce:1c72:e06f:2957",

"datetime": "2023-07-15T00:00:43.641150+03:00",

"day\_of\_week": 6,

"day\_of\_year": 196,

"dst": false,

"dst\_from": null,

"dst\_offset": 0,

"dst\_until": null,

"raw\_offset": 10800,

"timezone": "Africa/Nairobi",

"unixtime": 1689368443,

"utc\_datetime": "2023-07-14T21:00:43.641150+00:00",

"utc\_offset": "+03:00",

"week\_number": 28

}

4. (16)Using the above JSON data from worldtimeapi.org, fill in the JSON key / value pairs relating to the descriptions in the table below.

|  |  |  |
| --- | --- | --- |
| *See Response Schema* | JSON key | JSON value |
| UTC date/time in ISO8601 format | Utc\_datetime | 2023-07-14T21:00:43.641150+00:00 |
| Unix UTC timestamp | unixtime | 1689368443 |
| Unix UTC to location difference | raw\_offset | 10800 |
| Location's daylight-saving time difference | Dst\_offset | 0 |
| Location date/time in ISO8601 format | datetime | 2023-07-15T00:00:43.641150+03:00 |
| How do you calculate the *location's* *timestamp* from the UTC timestamp using JSON keys? | *Location’s timestamp = unix UTC timestamp+*Unix UTC to location difference  1689368443+10800=1689379243 | *Calculated location timestamp value is:*  1689379243 |

**5.**  (5) How did you confirm that your location timestamp when converted to data/time was the same as the Location date/time in ISO8601 format in the JSON schema? Show your test and the result.

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SDLC – Software Development Life Cycle 54 points = 9 points × 6 items, 75+ words each

**Determine**:

I first of all read the instructions and the desired output provided in the workshop pdf to become comfortable with the scope of the assignment and also check the deadline to know how much time I have to do the assignment. I then use the computational thinking method taught in the APS145 class where the first step is to decompose, meaning I break down the workshop into smaller parts and understand the specific requirements that is needed in the code for example where the user needs to input data, how will that input data get processed and produce the output that is expected. I then refer to the notes that was taught In the theory class about that particular topic and acquire the skills that I will be needing. Finally then I create a plan using a notebook and pen because it is very helpful to remember, which includes a rough plan through the code, the specific skills that I will need and considered the deadlines.

**Define:**

To determine the specific requirements that I will need to create the code, I analyse the code and write down what skills will be needed , for example which loops, what functions,variables, structures and others. I then examine the problem statement, and if I get confused about a particular part, I seek help from the teacher or my friend and clarify the question. I pay most of my attention to the user input data, including interactions and data sources, as well as the desired logic, I also pay attention to the expected output, such as what output should be printed, the case sensitive of the output, spaces, and its structure.

**Design**:

During the design phase, I avoid getting right into coding and instead concentrate on planning and developing the solution. I begin by analyzing the problem specifications and determining the technical capabilities required for implementation. This allows me to decide whether I already have the the requisite knowledge or if I need to gain new abilities. I generate a design by visualizing the architecture, data flow, and user interactions. This may involve writing pseudocode or drawing flowcharts to document the algorithmic method. Writing coding comments before beginning coding enhances clarity and maintainability. The design process contributes to development by providing an organized roadmap, eliminating errors, and assuring more efficient execution.

**Develop:**

I adapt the design into programming source code during the Develop phase. I follow c coding best practices and guidelines, conforming to the syntax and traditions of the programming language of choice. I divide the implementation into smaller jobs and develop code for each component to ensure modularity and reuse. In addition to coding, I create comments to clarify the functioning of the code, making it more intelligible and manageable. I write test cases that cover various circumstances and expected outcomes for testing and troubleshooting. I run the test cases and compare the results to the expected results to discover any inconsistencies. If problems are discovered, I utilize debugging techniques such as displaying intermediate values or utilizing debuggers to track the code's execution and pinpoint the cause of faults. I ensure that the output is right by comparing it to the expected results and improving the code until it produces the intended results.

**Deliver**:

I manage the delivery and deployment of my project during the Deliver phase. Aside from performing the necessary actions on the matrix server or any other specified platform, I examine additional factors. If something doesn't work as it should, I troubleshoot and diagnose the problem by analyzing error messages, logs, or debugging data. To enable successful testing, I make appropriate changes to the code using test-driven development methods. I consider the problems encountered, the solutions implemented, the lessons learned, and the overall project experience for the reflection text, stressing both successes and places for growth.

**D'oh**:

In the D'oh stage, I ensure the maintainability of my work, which is equivalent to continuing system maintenance and user assistance in the industry. I organise and document source code files for in-lab work, making them simply understood and accessible for transferring to at-home work. To track changes, I utilise version control systems like Git, which keeps the matrix version up to current with my local system. When it comes to the first version of an assignment project, I prioritise producing clean, modular code that adheres to recommended practises. I create the groundwork for maintainability as new functionalities are introduced by adhering to proper design principles and anticipating future requirements.

Software Version 5 × 2 points each

A. software- Visual Studio 2022, version 17.5.5

B. the components of the version number means 17-Major version, 5-Minor version, 5-Patch version

C. it ensures that projects which were created in older version can be modified in the current version without any compatibility issue.

D. it ensure that projects which are created in current version can be modified in the older version without any compatibility issue.

E. <https://learn.microsoft.com/en-us/visualstudio/releases/2022/release-notes>

release date- February 21st, 2023

what’s new- ASP.NET Core applications launched in Visual Studio now redirect output to the integrated Terminal Tool Window instead of an external console Window.