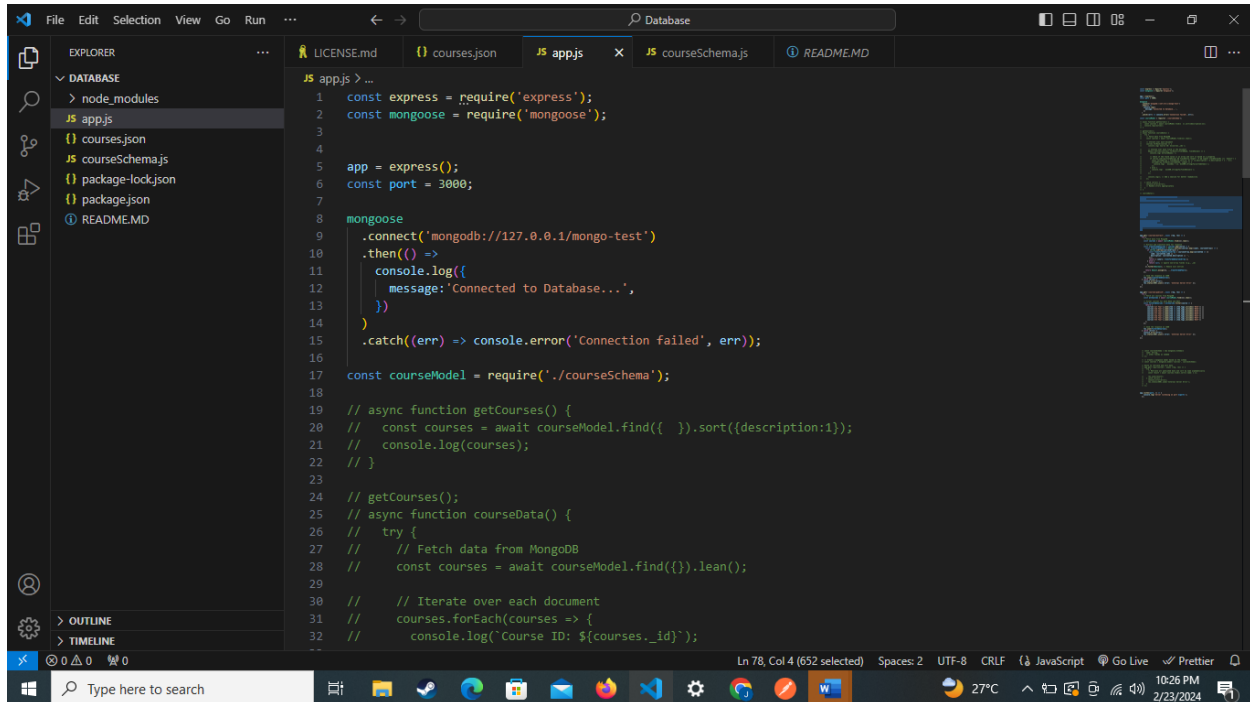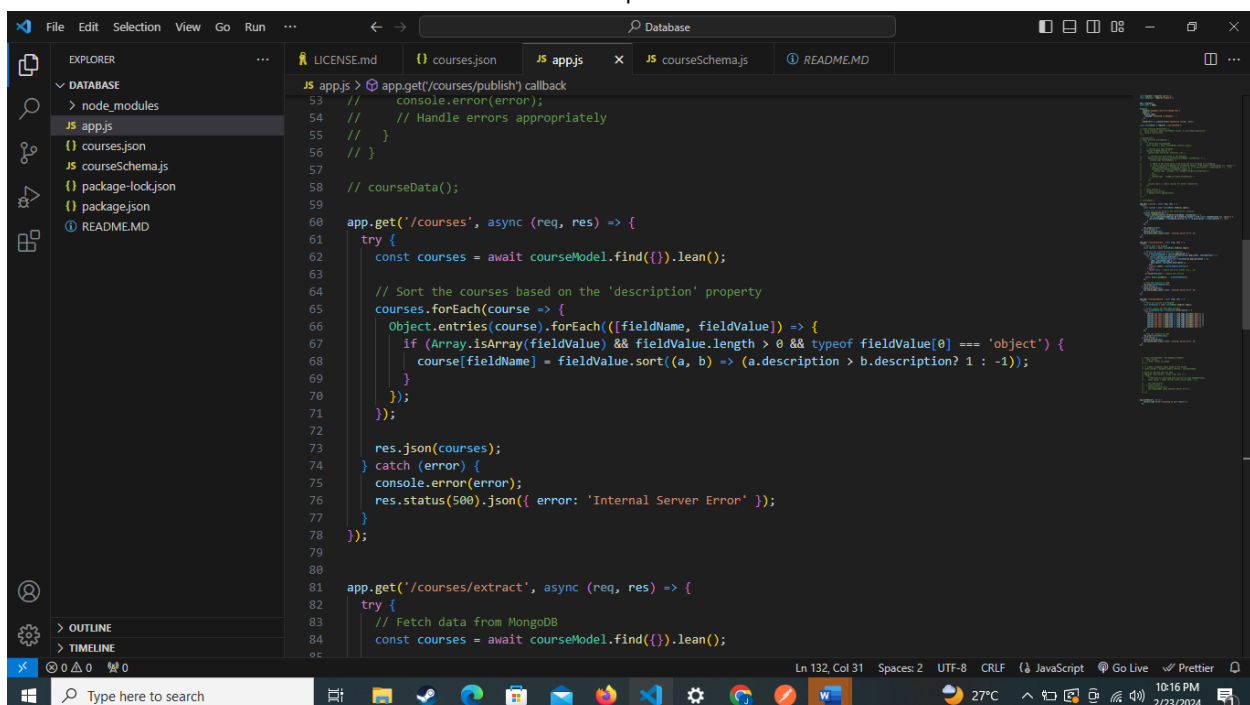Submitted by: Jayvee Enobay BSIT3D

Documentation

Test Procedure

First is I struggle to setup the database cause I cannot import the json file, in the direction is there is not said that need the path of the json file. And I watched youtube video to fix the problem. Then I procced to connecting the database and make sure that the mongodb is running.

Sort the description from a - z

Output from postman

[
    {
        "_id": "65d62e7a72bb46d9781505f2",
        "1st Year": [
            {
                "code": "BSIT103",
                "description": "Computer Organization and Architecture",
                "units": 3,
                "tags": [
                    "BSIT103",
                    "BSIT",
                    "Computer",
                    "Organization",
                    "Architecture"
                ]
            },
            {
                "code": "BSIT101",
                "description": "Introduction to Information Technology",
                "units": 3,
                "tags": [
                    "BSIT101",
                    "BSIT",
                    "Information Technology",
                    "Introduction"
                ]
            },
            {
                "code": "BSIT102",
                "description": "Programming Fundamentals",
                "units": 3,
                "tags": [
                    "BSIT102",
                    "BSIT",
                    "Programming",
                    "Fundamentals"
                ]
            }
        ],
        "2nd Year": [
            {
                "code": "BSIT201",
                "description": "Database Management",
                "units": 3,

```json
        “tags”: [
            “BSIT201”,
            “BSIT”,
            “Database”,
            “Management”
        ]
    },
    {
        “code”: “BSIT203”,
        “description”: “Operating Systems”,
        “units”: 3,
        “tags”: [
            “BSIT203”,
            “BSIT”,
            “Operating”,
            “Systems”
        ]
    },
    {
        “code”: “BSIT202”,
        “description”: “Web Technologies”,
        “units”: 3,
        “tags”: [
            “BSIT202”,
            “BSIT”,
            “Web”,
            “Technologies”
        ]
    }
],
“3rd Year”: [
    {
        “code”: “BSIT303”,
        “description”: “Information Security”,
        “units”: 3,
        “tags”: []
    },
    {
        “code”: “BSIT301”,
        “description”: “Networking”,
        “units”: 3,
        “tags”: []
    },
    {
        “code”: “BSIT302”,
        “description”: “Software Engineering”,
        “units”: 3,
        “tags”: []
```

```json
                }
        ],
        "4ᵗʰ Year": [
            {
                "code": "BSIT403",
                "description": "Internship/Thesis",
                "units": 6,
                "tags": []
            },
            {
                "code": "BSIT402",
                "description": "Mobile Application Development",
                "units": 3,
                "tags": []
            },
            {
                "code": "BSIT401",
                "description": "Project Management",
                "units": 3,
                "tags": []
            }
        ]
    },
    {
        "_id": "65d62e7a72bb46d9781505f3",
        "1ˢᵗ Year": [
            {
                "code": "BSIS103",
                "description": "Database Management Systems",
                "units": 3,
                "tags": [
                    "BSIS103",
                    "BSIS",
                    "Database",
                    "Management",
                    "Systems"
                ]
            },
            {
                "code": "BSIS102",
                "description": "Fundamentals of Programming",
                "units": 3,
                "tags": [
                    "BSIS102",
                    "BSIS",
                    "Programming",
                    "Fundamentals"
                ]
```

```json
        },
        {
            "code": "BSIS101",
            "description": "Introduction to Information Systems",
            "units": 3,
            "tags": [
                "BSIS101",
                "BSIS",
                "Information Systems",
                "Introduction"
            ]
        }
    ],
    "2nd Year": [
        {
            "code": "BSIS203",
            "description": "Data Structures and Algorithms",
            "units": 3,
            "tags": [
                "BSIS203",
                "BSIS",
                "Data",
                "Structures",
                "Algorithms"
            ]
        },
        {
            "code": "BSIS202",
            "description": "Object-Oriented Programming",
            "units": 3,
            "tags": [
                "BSIS202",
                "BSIS",
                "Object-Oriented",
                "Programming"
            ]
        },
        {
            "code": "BSIS201",
            "description": "Systems Analysis and Design",
            "units": 3,
            "tags": [
                "BSIS201",
                "BSIS",
                "Systems",
                "Analysis",
                "Design"
            ]
```

```
            }
        ],
        "3rd Year": [
            {
                "code": "BSIS303",
                "description": "Information Security",
                "units": 3,
                "tags": [
                    "BSIS303",
                    "BSIS",
                    "Information",
                    "Security"
                ]
            },
            {
                "code": "BSIS302",
                "description": "Software Engineering",
                "units": 3,
                "tags": [
                    "BSIS302",
                    "BSIS",
                    "Software",
                    "Engineering"
                ]
            },
            {
                "code": "BSIS301",
                "description": "Web Development",
                "units": 3,
                "tags": [
                    "BSIS301",
                    "BSIS",
                    "Web",
                    "Development"
                ]
            }
        ],
        "4th Year": [
            {
                "code": "BSIS401",
                "description": "Enterprise Systems",
                "units": 3,
                "tags": [
                    "BSIS401",
                    "BSIS",
                    "Enterprise",
                    "Systems"
                ]
```

```json
        },
        {
            "code": "BSIS403",
            "description": "Internship/Thesis",
            "units": 6,
            "tags": [
                "BSIS403",
                "BSIS",
                "Internship",
                "Thesis"
            ]
        },
        {
            "code": "BSIS402",
            "description": "Project Management",
            "units": 3,
            "tags": [
                "BSIS402",
                "BSIS",
                "Project",
                "Management"
            ]
        }
    ]
}
]
```

Extracting the name and specialization
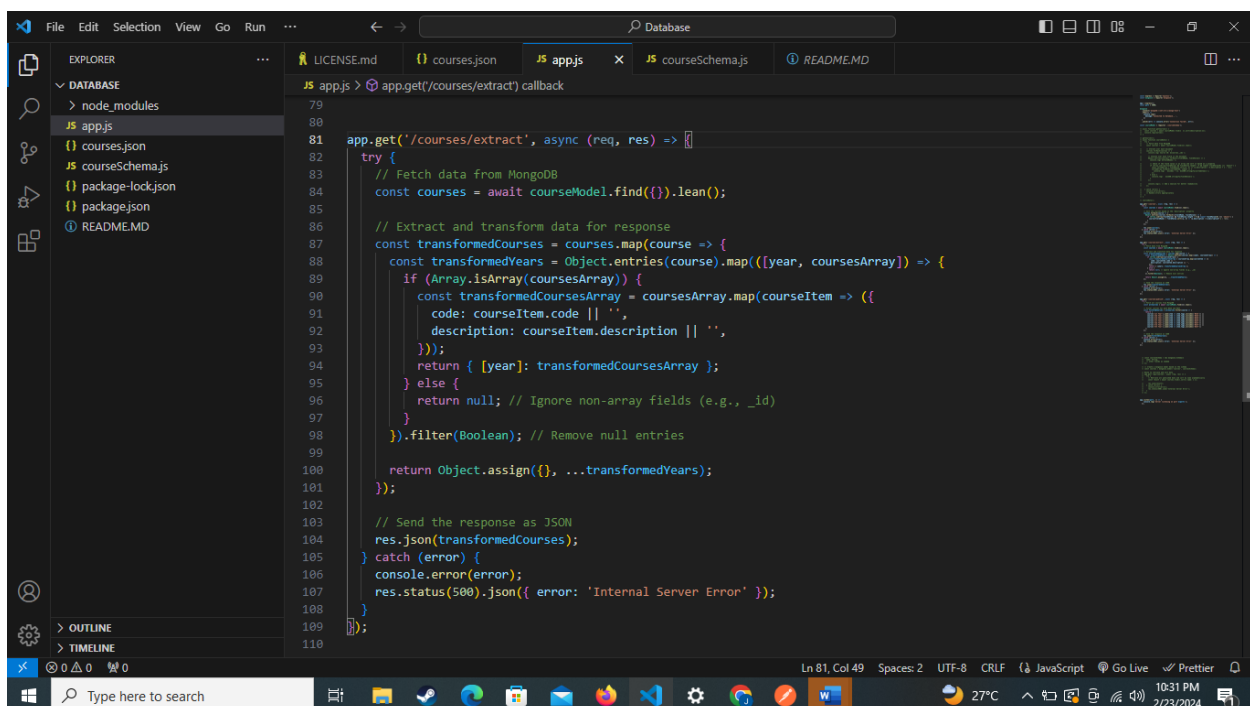
Result

```json
[
    {
        "1st Year": [
            {
                "code": "BSIT101",
                "description": "Introduction to Information Technology"
            },
            {
                "code": "BSIT102",
                "description": "Programming Fundamentals"
            },
            {
                "code": "BSIT103",
                "description": "Computer Organization and Architecture"
            }
        ],
        "2nd Year": [
            {
                "code": "BSIT201",
                "description": "Database Management"
            },
            {
                "code": "BSIT202",
                "description": "Web Technologies"
            },
            {
                "code": "BSIT203",
                "description": "Operating Systems"
            }
        ],
        "3rd Year": [
            {
                "code": "BSIT301",
                "description": "Networking"
            },
            {
                "code": "BSIT302",
                "description": "Software Engineering"
            },
            {
                "code": "BSIT303",
                "description": "Information Security"
            }
        ],
```

```json
        "4th Year": [
            {
                "code": "BSIT401",
                "description": "Project Management"
            },
            {
                "code": "BSIT402",
                "description": "Mobile Application Development"
            },
            {
                "code": "BSIT403",
                "description": "Internship/Thesis"
            }
        ]
    },
    {
        "1st Year": [
            {
                "code": "BSIS101",
                "description": "Introduction to Information Systems"
            },
            {
                "code": "BSIS102",
                "description": "Fundamentals of Programming"
            },
            {
                "code": "BSIS103",
                "description": "Database Management Systems"
            }
        ],
        "2nd Year": [
            {
                "code": "BSIS201",
                "description": "Systems Analysis and Design"
            },
            {
                "code": "BSIS202",
                "description": "Object-Oriented Programming"
            },
            {
                "code": "BSIS203",
                "description": "Data Structures and Algorithms"
            }
        ],
        "3rd Year": [
            {
                "code": "BSIS301",
                "description": "Web Development"
            }
```

```json
        },
        {
            "code": "BSIS302",
            "description": "Software Engineering"
        },
        {
            "code": "BSIS303",
            "description": "Information Security"
        }
    ],
    "4th Year": [
        {
            "code": "BSIS401",
            "description": "Enterprise Systems"
        },
        {
            "code": "BSIS402",
            "description": "Project Management"
        },
        {
            "code": "BSIS403",
            "description": "Internship/Thesis"
        }
    ]
  }
]
```
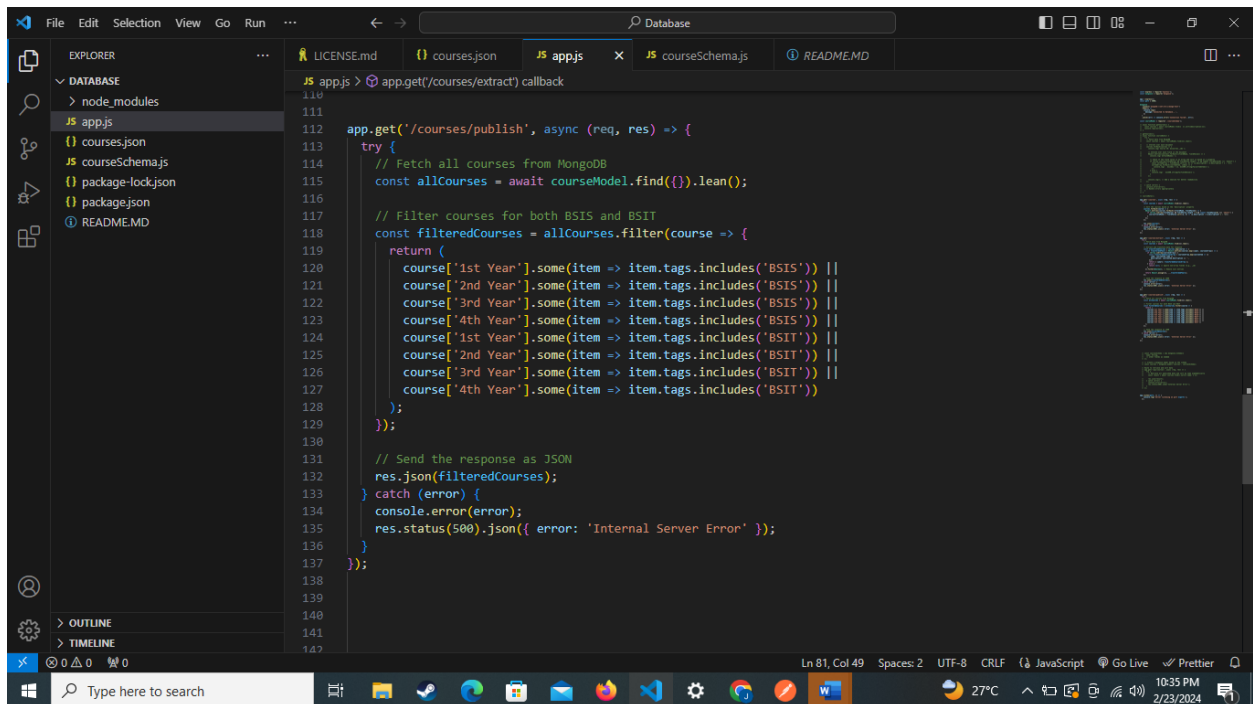
Fetching BSIS and BSIT data


```javascript
app.get('/courses/publish', async (req, res) => {
  try {
    // Fetch all courses from MongoDB
    const allCourses = await courseModel.find({}).lean();

    // Filter courses for both BSIS and BSIT
    const filteredCourses = allCourses.filter(course => {
      return (
        course['1st Year'].some(item => item.tags.includes('BSIS')) ||
        course['2nd Year'].some(item => item.tags.includes('BSIS')) ||
        course['3rd Year'].some(item => item.tags.includes('BSIS')) ||
        course['4th Year'].some(item => item.tags.includes('BSIS')) ||
        course['1st Year'].some(item => item.tags.includes('BSIT')) ||
        course['2nd Year'].some(item => item.tags.includes('BSIT')) ||
        course['3rd Year'].some(item => item.tags.includes('BSIT')) ||
        course['4th Year'].some(item => item.tags.includes('BSIT'))
      );
    });

    // Send the response as JSON
    res.json(filteredCourses);
  } catch (error) {
    console.error(error);
    res.status(500).json({ error: 'Internal Server Error' });
  }
});
```

Result

```
[
    {
        "_id": "65d62e7a72bb46d9781505f2",
        "1st Year": [
            {
                "code": "BSIT101",
                "description": "Introduction to Information Technology",
                "units": 3,
                "tags": [
                    "BSIT101",
                    "BSIT",
                    "Information Technology",
                    "Introduction"
                ]
            },
            {
                "code": "BSIT102",
                "description": "Programming Fundamentals",
                "units": 3,
                "tags": [
                    "BSIT102",
                    "BSIT",
                    "Programming",
                    "Fundamentals"
                ]
            },
            {
                "code": "BSIT103",
                "description": "Computer Organization and Architecture",
                "units": 3,
                "tags": [
                    "BSIT103",
                    "BSIT",
                    "Computer",
                    "Organization",
                    "Architecture"
                ]
            }
        ],
        "2nd Year": [
            {
                "code": "BSIT201",
                "description": "Database Management",
                "units": 3,
```

```json
            "tags": [
                "BSIT201",
                "BSIT",
                "Database",
                "Management"
            ]
        },
        {
            "code": "BSIT202",
            "description": "Web Technologies",
            "units": 3,
            "tags": [
                "BSIT202",
                "BSIT",
                "Web",
                "Technologies"
            ]
        },
        {
            "code": "BSIT203",
            "description": "Operating Systems",
            "units": 3,
            "tags": [
                "BSIT203",
                "BSIT",
                "Operating",
                "Systems"
            ]
        }
    ],
    "3rd Year": [
        {
            "code": "BSIT301",
            "description": "Networking",
            "units": 3,
            "tags": []
        },
        {
            "code": "BSIT302",
            "description": "Software Engineering",
            "units": 3,
            "tags": []
        },
        {
            "code": "BSIT303",
            "description": "Information Security",
            "units": 3,
            "tags": []
```

```json
                }
            ],
            "4th Year": [
                {
                    "code": "BSIT401",
                    "description": "Project Management",
                    "units": 3,
                    "tags": []
                },
                {
                    "code": "BSIT402",
                    "description": "Mobile Application Development",
                    "units": 3,
                    "tags": []
                },
                {
                    "code": "BSIT403",
                    "description": "Internship/Thesis",
                    "units": 6,
                    "tags": []
                }
            ]
        },
        {
            "_id": "65d62e7a72bb46d9781505f3",
            "1st Year": [
                {
                    "code": "BSIS101",
                    "description": "Introduction to Information Systems",
                    "units": 3,
                    "tags": [
                        "BSIS101",
                        "BSIS",
                        "Information Systems",
                        "Introduction"
                    ]
                },
                {
                    "code": "BSIS102",
                    "description": "Fundamentals of Programming",
                    "units": 3,
                    "tags": [
                        "BSIS102",
                        "BSIS",
                        "Programming",
                        "Fundamentals"
                    ]
                },
```

```json
        {
            "code": "BSIS103",
            "description": "Database Management Systems",
            "units": 3,
            "tags": [
                "BSIS103",
                "BSIS",
                "Database",
                "Management",
                "Systems"
            ]
        }
    ],
    "2nd Year": [
        {
            "code": "BSIS201",
            "description": "Systems Analysis and Design",
            "units": 3,
            "tags": [
                "BSIS201",
                "BSIS",
                "Systems",
                "Analysis",
                "Design"
            ]
        },
        {
            "code": "BSIS202",
            "description": "Object-Oriented Programming",
            "units": 3,
            "tags": [
                "BSIS202",
                "BSIS",
                "Object-Oriented",
                "Programming"
            ]
        },
        {
            "code": "BSIS203",
            "description": "Data Structures and Algorithms",
            "units": 3,
            "tags": [
                "BSIS203",
                "BSIS",
                "Data",
                "Structures",
                "Algorithms"
            ]
```

```json
            }
        ],
        "3rd Year": [
            {
                "code": "BSIS301",
                "description": "Web Development",
                "units": 3,
                "tags": [
                    "BSIS301",
                    "BSIS",
                    "Web",
                    "Development"
                ]
            },
            {
                "code": "BSIS302",
                "description": "Software Engineering",
                "units": 3,
                "tags": [
                    "BSIS302",
                    "BSIS",
                    "Software",
                    "Engineering"
                ]
            },
            {
                "code": "BSIS303",
                "description": "Information Security",
                "units": 3,
                "tags": [
                    "BSIS303",
                    "BSIS",
                    "Information",
                    "Security"
                ]
            }
        ],
        "4th Year": [
            {
                "code": "BSIS401",
                "description": "Enterprise Systems",
                "units": 3,
                "tags": [
                    "BSIS401",
                    "BSIS",
                    "Enterprise",
                    "Systems"
                ]
```

```
        },
        {
            "code": "BSIS402",
            "description": "Project Management",
            "units": 3,
            "tags": [
                "BSIS402",
                "BSIS",
                "Project",
                "Management"
            ]
        },
        {
            "code": "BSIS403",
            "description": "Internship/Thesis",
            "units": 6,
            "tags": [
                "BSIS403",
                "BSIS",
                "Internship",
                "Thesis"
            ]
        }
    ]
}
]
```

By doing this activity I cannot understand the instruction that is why I struggle to this activity, I don't know what are need to sort and to extract. And solution that I made is to search from online and watch the youtube tutorial. Because the provided module is I cannot understand too, I think the provided module is far from the activity.