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ITSS 3312.002

**Example output:**

Welcome to Student and Course Management System!

This system will allow you to manage students and courses. Let’s start with the number of students this system will have: 5

\*\*\*Welcome to Student and Course Management System\*\*\*

Press ‘1’ for Student Management System (SMS)

Press ‘2’ for Course Management System (CMS)

Press ‘0’ to exit

1

\*\*\*Welcome to SMS\*\*\*

Press ‘1’ to add a student

Press ‘2’ to deactivate a student

Press ‘3’ to display all students

Press ‘4’ to search for a student by ID

Press ‘5’ to assign on-campus job

Press ‘6’ to display all students with on-campus jobs

Press ‘0’ to exit SMS

1

Enter first name: Joe

Enter last name: Smith

Enter level of the student: Freshman

Joe Smith has been added as a Freshman with ID 7

\*\*\*Welcome to SMS\*\*\*

Press ‘1’ to add a student

Press ‘2’ to deactivate a student

Press ‘3’ to display all students

Press ‘4’ to search for a student by ID

Press ‘5’ to assign on-campus job

Press ‘6’ to display all students with on-campus jobs

Press ‘0’ to exit SMS

1

Enter first name: Mary

Enter last name: Cane

Enter level of the student: Junior

Mary Cane has been added as a Junior with ID 6

\*\*\*Welcome to SMS\*\*\*

Press ‘1’ to add a student

Press ‘2’ to deactivate a student

Press ‘3’ to display all students

Press ‘4’ to search for a student by ID

Press ‘5’ to assign on-campus job

Press ‘6’ to display all students with on-campus jobs

Press ‘0’ to exit SMS

\*\*\*Welcome to SMS\*\*\*

Press ‘1’ to add a student

Press ‘2’ to deactivate a student

Press ‘3’ to display all students

Press ‘4’ to search for a student by ID

Press ‘5’ to assign on-campus job

Press ‘6’ to display all students with on-campus jobs

Press ‘0’ to exit SMS

3

Joe Smith

ID: 7

Level: Freshman

Status: Active

Mary Cane

ID: 6

Level: Junior

Status: Active

\*\*\*Welcome to SMS\*\*\*

Press ‘1’ to add a student

Press ‘2’ to deactivate a student

Press ‘3’ to display all students

Press ‘4’ to search for a student by ID

Press ‘5’ to assign on-campus job

Press ‘6’ to display all students with on-campus jobs

Press ‘0’ to exit SMS

2

Enter the ID for the student you want to deactivate: 6

Mary Cane has been deactivated

\*\*\*Welcome to SMS\*\*\*

Press ‘1’ to add a student

Press ‘2’ to deactivate a student

Press ‘3’ to display all students

Press ‘4’ to search for a student by ID

Press ‘5’ to assign on-campus job

Press ‘6’ to display all students with on-campus jobs

Press ‘0’ to exit SMS

4

Enter the student ID: 7

Joe Smith

ID: 7

Level: Freshman

Status: Active

\*\*\*Welcome to SMS\*\*\*

Press ‘1’ to add a student

Press ‘2’ to deactivate a student

Press ‘3’ to display all students

Press ‘4’ to search for a student by ID

Press ‘5’ to assign on-campus job

Press ‘6’ to display all students with on-campus jobs

Press ‘0’ to exit SMS

5

Enter student ID: 7

Enter job: TA

Enter job type: part-time

Joe Smith has been assigned part-time TA job

\*\*\*Welcome to SMS\*\*\*

Press ‘1’ to add a student

Press ‘2’ to deactivate a student

Press ‘3’ to display all students

Press ‘4’ to search for a student by ID

Press ‘5’ to assign on-campus job

Press ‘6’ to display all students with on-campus jobs

Press ‘0’ to exit SMS

6

Joe Smith

ID - 7

Part-time TA

\*\*\*Welcome to SMS\*\*\*

Press ‘1’ to add a student

Press ‘2’ to deactivate a student

Press ‘3’ to display all students

Press ‘4’ to search for a student by ID

Press ‘5’ to assign on-campus job

Press ‘6’ to display all students with on-campus jobs

Press ‘0’ to exit SMS

0

\*\*\*Welcome to Student and Course Management System\*\*\*

Press ‘1’ for Student Management System (SMS)

Press ‘2’ for Course Management System (CMS)

Press ‘0’ to exit

2

\*\*\*Welcome to CMS\*\*\*

Press ‘1’ to add a new course

Press ‘2’ to assign student a new course

Press ‘3’ to display student with assigned courses

Press ‘0’ to exit CMS

1

Enter course ID: 3311

Enter course name: Java 101

Confirmation: New course 3311 has been added

Press ‘1’ to add a new course

Press ‘2’ to assign student a new course

Press ‘3’ to display student with assigned courses

Press ‘0’ to exit CMS

2

Enter student ID: 7

Enter course ID: 3311

Confirmation: Joe Smith has been assigned course 3311

Press ‘1’ to add a new course

Press ‘2’ to assign student a new course

Press ‘3’ to display student with assigned courses

Press ‘0’ to exit CMS

3

Joe Smith

ID – 7

Courses: 3311

Press ‘1’ to add a new course

Press ‘2’ to assign student a new course

Press ‘3’ to display student with assigned courses

Press ‘0’ to exit CMS

0

\*\*\*Welcome to Student and Course Management System\*\*\*

Press ‘1’ for Student Management System (SMS)

Press ‘2’ for Course Management System (CMS)

Press ‘0’ to exit

0

**Research and Analysis:**

This project is basically a continuation of project two. It still has a student management system that can add, deactivate, search, and display all students. In project three, I am adding student job roles to the student management system and creating a course management system as well. The process with the student employee aspect of the project is quite similar for what I did for project two. I created an object array for my student employees and filled up their elements with current student info and with user input. For my course management system, I was not required to create an object array for my courses, so I simply made it to where the course information will be written down onto a file. If I wanted to display the information written down on those files, I would read from it using scanner and print it out. When trying to figure out how to accomplish what I needed for my project, I would consult the lecture slides and the code examples provided in elearning. I also looked at stack overflow when I was stuck.

**Design:**

I divided my code into several different classes. The driver class, student class, student\_employee (subclass of student), and course class.

I ended up creating two object arrays, one using a student object and one using a student\_employee object to record student and student employee information.

I created three files. One for student display, one for course creation, and one for course assignment to students.

For my menus, main menu, student menu, and course menu, I would use switch statements in while loops. The main menu has three options, 1. Student Menu, 2. Course Menu, 3. Exit System. The student menu has 7 different options. 1. Add a student. 2. Deactivate a student. 3. Display all students. 4. Search for a student by ID. 5. Assign an on-campus job. 6. Display all students with on-campus jobs. 0. Exit Student System. The course menu has 4 options. 1. Add a new course. 2. Assign a student a course. 3. Display student with assigned courses. 0. Exit Course system.

**Testing:**

I had to do a lot of testing for my switch statements encased in while loops. It is complicated since I have switch statements within other switch statements so I had to be sure that I would get exactly what I need from the console. So, I would try out the system and mess with the placement of my user menus. At one point of testing, I noticed that my student management menu only showed up once when I selected it originally, but I needed it to pop up every time I completed an operation within the menu. I figured out this was happening because the menu was not in the while loop so that was why it only printed out once. Without testing, I would have never figured this out.