**Name: Usman Ul haq**

**Roll number: SU92-BSAIM-S24-035**

**Section: 2A**

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**Task = 06**

**Create a Python program to model a university course registration system:**

1. Implement a parent class called Course with attributes course\_code and

course\_name. Include a method display\_info to display the course code and name.

2. Create two child classes UndergraduateCourse and GraduateCourse inheriting

from Course. Each should have an additional attribute (year\_level for

UndergraduateCourse and research\_area for GraduateCourse) and a method

additional\_info to display the additional attributes.

3. Implement a function register\_course that takes user input to register a course. The

user should input the course code, course name, year level (for undergraduate

courses), or research area (for graduate courses).

class Subject:

    def \_\_init\_\_(self, course\_code, course\_name):

        self.course\_code = course\_code

        self.course\_name = course\_name

    def display\_info(self):

        print(f"Course Code: {self.course\_code}")

        print(f"Course Name: {self.course\_name}")

class BachelorSubject(Subject):

    def \_\_init\_\_(self, course\_code, course\_name, year\_level):

        super().\_\_init\_\_(course\_code, course\_name)

        self.year\_level = year\_level

    def additional\_info(self):

        print(f"Year Level: {self.year\_level}")

class MasterSubject(Subject):

    def \_\_init\_\_(self, course\_code, course\_name, research\_area):

        super().\_\_init\_\_(course\_code, course\_name)

        self.research\_area = research\_area

    def additional\_info(self):

        print(f"Research Area: {self.research\_area}")

def register\_subject():

    print("Register a Subject:")

    subject\_type = input("Enter subject type (bachelor/master): ").strip().lower()

    course\_code = input("Enter course code: ").strip()

    course\_name = input("Enter course name: ").strip()

    if subject\_type == "bachelor":

        year\_level = input("Enter year level (e.g., 1, 2, 3, 4): ").strip()

        subject = BachelorSubject(course\_code, course\_name, year\_level)

    elif subject\_type == "master":

        research\_area = input("Enter research area: ").strip()

        subject = MasterSubject(course\_code, course\_name, research\_area)

    else:

        print("Invalid subject type! Registration failed.")

        return None

    print("\nSubject Registered Successfully!")

    subject.display\_info()

    subject.additional\_info()

    return subject

while True:

    print("\n--- University Subject Registration System ---")

    option = input("Do you want to register a subject? (yes/no): ").strip().lower()

    if option == "yes":

        register\_subject()

    elif option == "no":

        print("Exiting the system. Goodbye!")

        break

    else:

        print("Invalid input. Please enter 'yes' or 'no'.")