**IMPLEMENTATION – EX 5 :**

**Question 1:**

class Course:

def \_\_init\_\_(self,course\_code,course\_name,credit\_hours, \*args,\*\*kwargs):

self.course\_code = course\_code

self.course\_name = course\_name

self.credit\_hours = credit\_hours

self.additional\_args = args

self.additional\_kwargs = kwargs

def add\_info(self):

self.course\_code = input("enter the course\_code : ")

self.course\_name = input("enter the course\_name: ")

self.credit\_hours = int(input("enter the credit\_hours: "))

self.additional\_args = input("any additional info: ")

self.additional\_kwargs = input("any additional kwags: ")

def display\_info(self):

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

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

print(f"credit\_hours:{self.credit\_hours}")

if self.additional\_args:

print(f"additional\_args:{self.additional\_args}")

class Corecourse(Course):

def \_\_init\_\_(self,\*args,\*\*kwargs):

super().\_\_init\_\_(\*args,\*\*kwargs)

def add\_info(self):

super().add\_info()

self.required\_prerequistes = input("prerequistes: ")

def display\_info(self):

print(f"required\_prerequistes={self.required\_prerequistes}")

super().display\_info()

class Elective(Course):

def \_\_init\_\_(self,\*args,\*\*kwargs):

super().\_\_init\_\_(\*args,\*\*kwargs)

def add\_info(self):

super().add\_info()

self.available\_terms\_property = input("enter the lab properties: ")

def display\_info(self):

super().display\_info()

print(f"available terms:{self.available\_terms\_property}")

class Labcourses(Course):

def \_\_init\_\_(self,\*args,\*\*kwargs):

super().\_\_init\_\_(\*args,\*\*kwargs)

def add\_info(self):

super().add\_info()

self.lab\_location = input("enter the lab location: ")

def display\_info(self):

super().display\_info()

print(f"lab\_location:{self.lab\_location}")

# Create instances of CoreCourse, Elective, and Labcourses

# Create instances of CoreCourse, Elective, and Labcourses

core\_course = Corecourse("CS100", "CS101", 3, required\_prerequisites="CS100")

elective\_course = Elective(["Fall", "Spring"], "MATH201", 4, available\_terms\_property="Fall only")

lab\_course = Labcourses("Lab Building 2", "CHEM301", 2, lab\_location="Lab A")

# Add information to each course

core\_course.add\_info()

elective\_course.add\_info()

lab\_course.add\_info()

# Display course information

print("\nCore Course Information:")

core\_course.display\_info()

print("\nElective Course Information:")

elective\_course.display\_info()

print("\nLab Course Information:")

lab\_course.display\_info()

**OUTPUT:**

**enter the course\_code : C123**

**enter the course\_name: MATHS**

**enter the credit\_hours: 45**

**any additional info: ADVANCE MTH**

**any additional kwags:**

**prerequistes: NOTHING**

**Question 2:**

class Movie:

def \_\_init\_\_(self, title, director, year, genre, \*args, \*\*kwargs):

self.title = title

self.director = director

self.year = year

self.genre = genre

self.additional\_args = args

self.additional\_kwargs = kwargs

def display\_info(self):

print(f"Title: {self.title}, Director: {self.director}, Year: {self.year}, Genre: {self.genre}")

if self.additional\_args:

print(f"Additional Args: {self.additional\_args}")

if self.additional\_kwargs:

print(f"Additional Kwargs: {self.additional\_kwargs}")

class Movielist(Movie):

def \_\_init\_\_(self, \*args, \*\*kwargs):

super().\_\_init\_\_(\*args, \*\*kwargs)

self.actor = ""

self.actress = ""

self.budget = ""

def add\_info(self):

self.actor = input("Enter the actor of the movie: ")

self.actress = input("Enter the actress of the movie: ")

self.budget = input("Enter the budget of the movie: ")

def display\_info(self):

super().display\_info()

print("Additional Information: ")

print(f"Actor: {self.actor}, Actress: {self.actress}, Budget: {self.budget}")

# Create instances and use the classes

movie1 = Movielist("Leo", "Loki", 2023, "Action")

movie1.add\_info()

movie1.display\_info()

movie2 = Movielist("Jailer", "Nelson", 2022, "Adventure", "Worstfilm", additional\_info="Don't watch this movie this a shitt")

movie2.add\_info()

movie2.display\_info()

**OUTPUT:**

**Enter the actor of the movie: VIJAY**

**Enter the actress of the movie: leo**

**Enter the budget of the movie: 500**

**Title: Leo, Director: Loki, Year: 2023, Genre: Action**

**Additional Information:**

**Actor: VIJAY, Actress: leo, Budget: 500**