# COURSE OUTCOME 6

**Design and deployment of NoSQL databases with real time requirements.**

## PROGRAM 1

**AIM:** Develop a Student Marks Management Application using Python and MongoDB.

1. Create a collection ‘student_data’

```
university> db.createCollection("student_data")
{ ok: 1 }
```

2. Program

```
import pymongo
client=pymongo.MongoClient("mongodb://localhost:27017")
db=client["university"]
collection=db["student_data"]
def input_data():
    print("Enter student details:")
    s_id=int(input("Enter roll no:"))
    s_name=input("Enter name:")
    e_marks=float(input("Enter english marks:"))
    m_marks=float(input("Enter maths marks:"))
    s_marks=float(input("Enter science marks:"))
    total=e_marks+m_marks+s_marks
    grade=(total/300)*10
    student_data={
        's_id':s_id,
        's_name':s_name,
        'e_marks':e_marks,
        'm_marks':m_marks,
        's_marks':s_marks,
        'total':total,
        'grade':grade
        }
    collection.insert_one(student_data)
    print("Data successfully inserted")
def display_data():
    cursor=collection.find()
    for i in cursor:
        print("\nRoll No:",i['s_id'])
        print("Name:",i['s_name'])
        print("English:",i['e_marks'])
        print("Maths:",i['m_marks'])
        print("Science:",i['s_marks'])
        print("Total:",i['total'])
        print("Grade:",i['grade'])
        print("STUDENTS MARKS CALCULATOR")

while True:
    print("\n==========MENU=========\n1.Input Student Details\n2.Display Student Details\n3.Exit")
    ch=int(input("Enter your choice(1-3):"))
    if ch==1:
        input_data()
    elif ch==2:
        display_data()
    elif ch==3:
        break
    else:
        print("Invalid choice!!")
```

3. Output

```
= RESTART: C:\Users\MITS\AppData\Local\Programs\Python\Python312\sample1.py

==========MENU=========
1.Input Student Details
2.Display Student Details
3.Exit
Enter your choice(1-3):1
Enter student details:
Enter roll no:3
Enter name:Ann
Enter english marks:89
Enter maths marks:78
Enter science marks:88
Data successfully inserted

==========MENU=========
1.Input Student Details
2.Display Student Details
3.Exit
Enter your choice(1-3):2

Roll No: 1
Name: hanna
English: 90.0
Maths: 80.0
Science: 90.0
Total: 260.0
Grade: 8.666666666666668
STUDENTS MARKS CALCULATOR

Roll No: 3
Name: Ann
English: 89.0
Maths: 78.0
Science: 88.0
Total: 255.0
Grade: 8.5
STUDENTS MARKS CALCULATOR

==========MENU=========
1.Input Student Details
2.Display Student Details
3.Exit
Enter your choice(1-3):3
```

4. Display the collection

```
university> db.student_data.find()
[
  {
    _id: ObjectId('681868649a5d015dd5281ebf'),
    s_id: 1,
    s_name: 'hanna',
    e_marks: 90,
    m_marks: 80,
    s_marks: 90,
    total: 260,
    grade: 8.666666666666668
  },
  {
    _id: ObjectId('6819aba79cf3a7ea66804a7b'),
    s_id: 3,
    s_name: 'Ann',
    e_marks: 89,
    m_marks: 78,
    s_marks: 88,
    total: 255,
    grade: 8.5
  }
]
```