

```

class Students:
    def __init__(self,roll_number,name,marks):
        self.roll_number = roll_number
        self.name = name
        self.marks = marks
        self.avg = self.avg_function()
        self.grade =self.grade_function()

    def avg_function(self):
        average=sum(self.marks.values())/len(self.marks)
        return average

    def grade_function(self):
        avg=self.avg
        if avg>=90:
            return 'A'
        elif avg>=75:
            return 'B'
        elif avg>=60:
            return 'C'
        elif avg>=45:
            return 'D'
        else:
            return 'F'

    def display_information(self):
        print("student roll_number: {}".format(self.roll_number))
        print("student name: {}".format(self.name))
        print("student average: {}".format(self.avg))
        print("student grade: {}".format(self.grade))

def add_student():
    roll_number = int(input("Enter roll_number:"))
    name = input("Enter name:")
    subject = ['Maths','English','Physics','c programming']
    d={}
    for i in subject:
        d[i]=int(input("Enter the marks in {}".format(i)))

```

```
return Students(roll_number,name,d)
```

```
students=[]
```

```
while True:
```

```
    print("1.Add student \n")
```

```
    print("2.Average \n")
```

```
    print("3.Grade \n")
```

```
    print("4.Display information \n")
```

```
    print("5.Filter Grade B and above \n")
```

```
    print("Enter '0' for Exit \n")
```

```
choice = int(input("Enter your choice:"))
```

```
if choice==1:
```

```
    students.append(add_student())
```

```
elif choice==2:
```

```
    for i in students:
```

```
        print(i.avg)
```

```
elif choice==3:
```

```
    for i in students:
```

```
        print(i.grade)
```

```
elif choice==4:
```

```
    for i in students:
```

```
        i.display_information()
```

```
elif choice==5:
```

```
    filter_details=list(filter(lambda x:x.grade  
in['A','B'],students))
```

```
    grades = [s.grade for s in filter_details]
```

```
    print(grades)
```

```
else:
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```
    break
```

