1.Grade card

```
n=int(input("enter your mark "))
if n>=90 and n<=100:
    print("you are passed and got an A grade")

elif n>=80 and n<=89:
    print("you are passed and got an B grade")

elif n>=70 and n<=79:
    print("you are passed and got an C grade")

elif n>=60 and n<=69:
    print("you are passed and got an D grade")

else:
    print("you are not passed and got an F grade")
```

2.Quadratic equation

```
a = float(input("Enter the coefficient a: "))
b = float(input("Enter the coefficient b: "))
c = float(input("Enter the coefficient c: "))

if a == 0:
    print("Not a quadratic equation.")
else:
   discriminant = b**2 - 4*a*c

   if discriminant > 0:
       root1 = (-b + discriminant**0.5) / (2*a)
        root2 = (-b - discriminant**0.5) / (2*a)
        print(f"The equation has two real solutions: “,root1, root2)
    elif discriminant == 0:
       root = -b / (2*a)
        print(f"The equation has one real solution:”,root)
    else:
       real_part = -b / (2*a)
        imaginary_part = (-discriminant)**0.5 / (2*a)
        print(f"The equation has complex solutions: ,real_part “+” imaginary_part, “I and “ , real_part
“-“ ,imaginary_part,”I”)
```

3.electricity bill

```
units = int(input("Enter the number of units consumed: "))

total_cost = 0

if units <= 100:
    total_cost = units * 0.10  # 10 paise = 0.10 rupees
elif units <= 150:
    total_cost = (100 * 0.10) + (units - 100) * 0.20
elif units <= 200:
    total_cost = (100 * 0.10) + (50 * 0.20) + (units - 150) * 0.75
else:
    total_cost = (100 * 0.10) + (50 * 0.20) + (50 * 0.75) + (units - 200) * 1.00
print("Total electricity bill  units is: “,units ,total_cost)
```

4. Check the measurements is of right angle triangle or not

```
a = float(input("Enter the length of the first side: "))
b = float(input("Enter the length of the second side: "))
c = float(input("Enter the length of the third side: "))
```

```
if a > b and a > c:
    result = a**2 == b**2 + c**2
elif b > a and b > c:
    result = b**2 == a**2 + c**2
else:
    result = c**2 == a**2 + b**2

if result:
    print("The given measurements form a right-angled triangle.")
else:
    print("The given measurements do not form a right-angled triangle.")
```