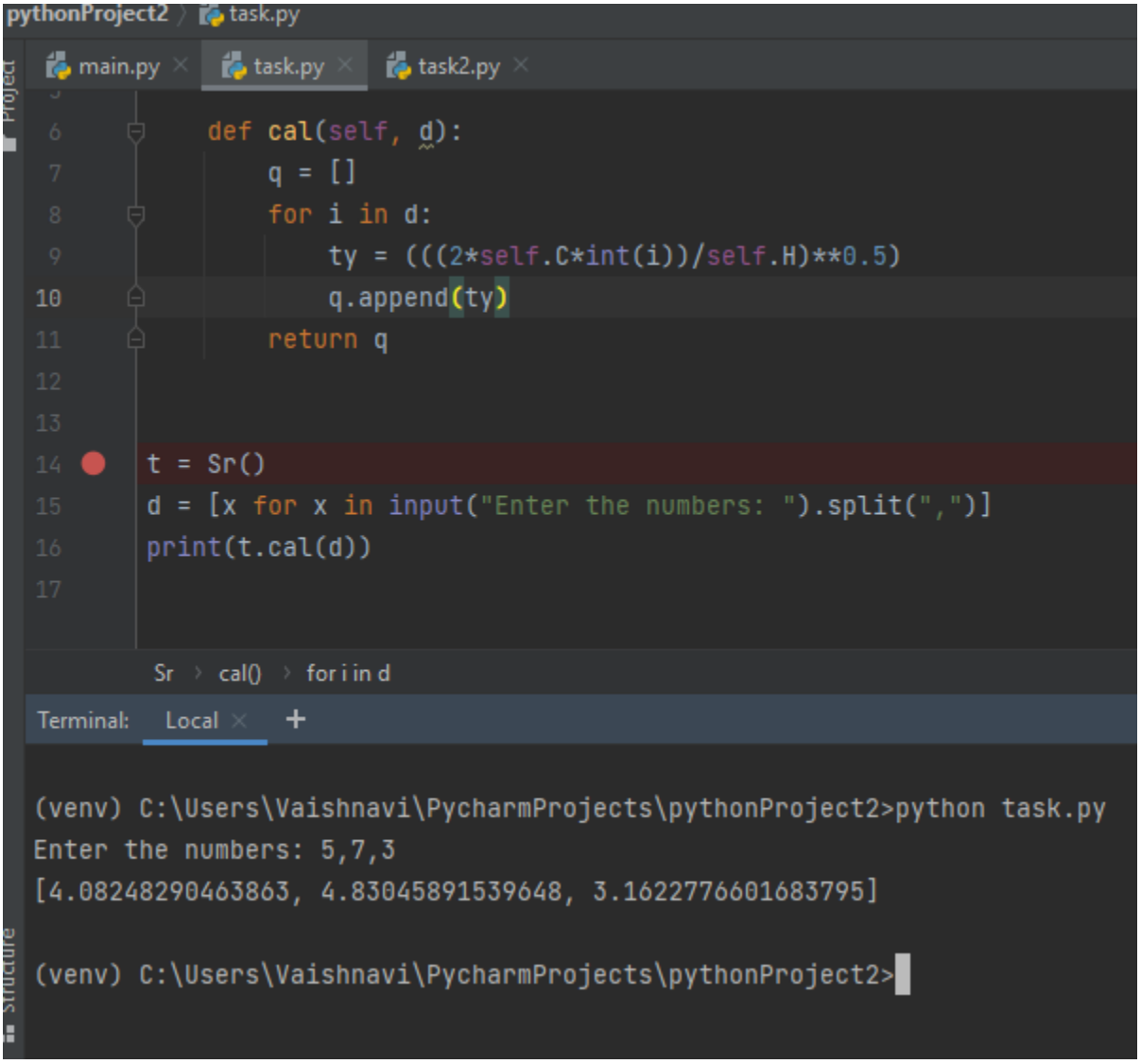
Task 7 :

1)



1)

2)

```
class Shape:
    def __init__(self, a=0):
        self.a = a

    def area(self):
        return self.a
```

```
class Square(Shape):
    def __init__(self, length):
        self.l = length

    def area(self):
        a = self.l * self.l
        return self.l**2


y = Square(4)
z = y.area()
print(z)
```

output:

```
(venv) C:\Users\Vaishnavi\PycharmProjects\pythonProject2>python task2.py
16
```

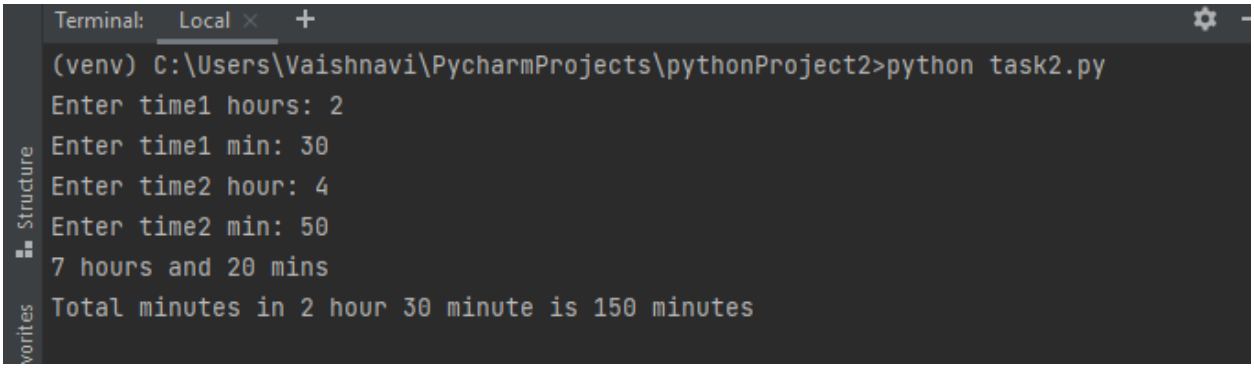
3)

```
class Integ:
    def cal(self):
        self.d = str(d)
        g = []
        for t in d:
            d.split(",")
            g.append(self.t)

        n = len(self.g)
        re = []
        for x in range(0, n-2):
            for i in range(x+1, n-1):
                for j in range(i+1, n):
                    if self.g[x]+self.g[i]+self.g[j] == 0:
                        re.append([self.g[x], self.g[i], self.g[j]])
        return re


d = [-25, -10, -7, -3, 2, 4, 8, 10]
print(d)
b = Integ()
result = b.cal()
print(result)
```

```
4) class Time:
    def __init__(self, time1_hour, time1_min, time2_hour, time2_min):
        self.time1_hour = time1_hour
        self.time1_min = time1_min
        self.time2_hour = time2_hour
        self.time2_min = time2_min
```

```
        self.total_hours = 0
        self.total_mins = 0

    def addTime(self):
        self.total_mins = self.time1_min + self.time2_min
        extra_hour = 0
        if (self.total_mins >= 60):
            extra_hour = int(self.total_mins/60)
            self.total_mins -= extra_hour * 60

        self.total_hours = self.time1_hour + self.time2_hour+extra_hour

    def displayTime(self):
        print("{} hours and {} mins".format(self.total_hours,
self.total_mins))

    def displayMinute(self,time_hour,time_min):
        total_minutes = time_hour*60 + time_min
        print("Total minutes in {} hour {} minute is {}
minutes".format(time_hour, time_min, total_minutes))

time1_hour = int(input("Enter time1 hours: "))
time1_min = int(input("Enter time1 min: "))
time2_hour = int(input("Enter time2 hour: "))
time2_min = int(input("Enter time2 min: "))
ob = Time(time1_hour,time1_min,time2_hour,time2_min)
ob.addTime()
ob.displayTime()
ob.displayMinute(time1_hour,time1_min)
```

Output:



5)

```
class person:
    age = 0
    def __init__(self,a):
        if a <=0:
            print("Age is not valid, setting age to 0")
            self.age = 0
        else:
            self.age = a
```

```
    def yearPasses(self,n):
        self.age += n
        print("Age after {} year passes : {}".format(n,self.age))

    def amIOld(self):
            if int(self.age) in range(1,13):
                print("You are Young",end="\n")
            elif int(self.age) in range(13,20):
                print("You are a Teenager",end="\n")
            elif int(self.age) >=20:
                print("You are Old", end="\n")

l=[-2,2,5,8,12,32,25]
for i in l:
    p=person(i)
    p.yearPasses(10)
    p.amIOld()
```

output:

```
Terminal:  Local  +
(venv) C:\Users\Vaishnavi\PycharmProjects\pythonProject2>python task2.py
Age is not valid, setting age to 0
Age after 10 year passes : 10
You are Young
Age after 10 year passes : 12
You are Young
Age after 10 year passes : 15
You are a Teenager
Age after 10 year passes : 18
You are a Teenager
Age after 10 year passes : 22
You are Old
Age after 10 year passes : 42
You are Old
Age after 10 year passes : 35
You are Old
```