Task1

```
def smoke_detected(condition):
    if(condition):
        print("SMOKE DETECTED!!\nTaking Actions:\nA1:.Alaram Sound Activated..\nA2:Sprinkler System Activating to put out fire.. \n")

def high_temp_detected(condition):
    if(condition):
         print("HIGH TEMP DETECTED!!\nTaking Actions:\nA1:Alaram Sound Activated..\nA2:Calling fire department..\n")

def main():
    while(1):
        percept_smoke=input("Is smoke detected? (Y-Yes/N-No):\n").upper()
        percept_temperature=input("Is High Temperature detected? (Y-Yes/N-No):\n").upper()
        if(percept_smoke=='Y'):
            smoke_detected(1)
        else:
            print("Smoke Not Detected..\n")

        if(percept_temperature=='Y'):
            high_temp_detected(1)
        else:
            print("High Temperature Not Detected..\n")

        if (percept_smoke=='N') and (percept_temperature=='N'):
            print('''As system in normal state thats why Alaram is OFF and Sprinkler System is deactivated.\n''')
        choose=input("If you want to moniter again then press (y) otherwise press any key to stop!\n").upper()
        if choose!='Y':
            print("Turning Off Agent..\nNow Agent is not active.")
            break


main()
```

```
Is smoke detected? (Y-Yes/N-No):
 y
Is High Temperature detected? (Y-Yes/N-No):
 n

SMOKE DETECTED!!
Taking Actions:
```

```
A1:.Alaram Sound Activated..
A2:Sprinkler System Activating to put out fire..

High Temperature Not Detected..


If you want to moniter again then press (y) otherwise press any key to
stop! y
Is smoke detected? (Y-Yes/N-No):
 y
Is High Temperature detected? (Y-Yes/N-No):
 y

SMOKE DETECTED!!
Taking Actions:
A1:.Alaram Sound Activated..
A2:Sprinkler System Activating to put out fire..

HIGH TEMP DETECTED!!
Taking Actions:
A1:Alaram Sound Activated..
A2:Calling fire department..


If you want to moniter again then press (y) otherwise press any key to
stop!

Turning Off Agent..
Agent Deactivated.
```

Task2

```python
import logging
logging.basicConfig(level=logging.INFO, format='%(levelname)s: %
(message)s')
class watering_agent:
    def __init__(self, dry_limit,wet_limit):
        self.dry_limit=dry_limit
        self.wet_limit=wet_limit
    def activating_watering(self):
        logging.info("Moisture is low!")
        print("Activating Watering System to water the plants. \n")
    def system_off(self):
        logging.info("Moisture is Normal.")
        print("Keeping system off because soil is already moist.\n")
    def deactivate_System(self):
        logging.info("Moisture is High!!!")
        print("Action Urgent:\nDeactivate system to prevent water
logging..\n")
```

```
    def percieve(self,moisture):
        if(moisture < self.dry_limit):
            self.activating_watering()
        elif (moisture > self.wet_limit):
            self.deactivate_System()
        else:
            self.system_off()

def main():
        agent=watering_agent(30,70)
        while(1):
            try:
                val=input("Enter current soil moisture level from (0 
to 100) or press Q to Quit?:").upper()
                if val=='Q':
                    print("Turning Off Agent..\nAgent not active 
Now.")
                    break
                moisture= float(val)
                if moisture < 0 or moisture > 100:
                    print("Error: Not Valid!!\n Please Enter a value 
between (0 to 100).\n")
                    continue
                agent.percieve(moisture)
            except ValueError:
                print("Not a valid input!!\n Please enter a numeric 
value for moisture.\n")

main()
```

```
Enter current soil moisture level from (0 to 100) or press Q to Quit?:
3479

Error: Not Valid!!
 Please Enter a value between (0 to 100).


Enter current soil moisture level from (0 to 100) or press Q to Quit?:
12983

Error: Not Valid!!
 Please Enter a value between (0 to 100).


Enter current soil moisture level from (0 to 100) or press Q to Quit?:
100

INFO: Moisture is High!!!
```

```
Action Urgent:
Deactivate system to prevent water logging..


Enter current soil moisture level from (0 to 100) or press Q to Quit?:
q

Turning Off Agent..
Agent not active Now.
```