```
import numpy as np
import pandas as pd


# 🔧 Mock vendor data
vendors = [
    # Birthday Vendors
    {"name": "Happy Treats", "type": "Catering", "location": "Mumbai", "specialty": "Birthday", "phone": "9483647364", "email": "happyhou
    {"name": "Sham Treats", "type": "Catering", "location": "Mumbai", "specialty": "Birthday", "phone": "9483647365", "email": "sham@gmai
    {"name": "Party Decor", "type": "Decoration", "location": "Mumbai", "specialty": "Birthday", "phone": "9483647366", "email": "party.e
    {"name": "House Party", "type": "Decoration", "location": "Mumbai", "specialty": "Birthday", "phone": "9483647367", "email": "housepa
    {"name": "DJ Funbox", "type": "Music", "location": "Mumbai", "specialty": "Birthday", "phone": "9483647368", "email": "dj@gmail.com",
    {"name": "Music Night", "type": "Music", "location": "Mumbai", "specialty": "Birthday", "phone": "9483647369", "email": "musicnight@g
    {"name": "Cake Point Venue", "type": "Venue", "location": "Mumbai", "specialty": "Birthday", "phone": "9483647370", "email": "cakepoi
    {"name": "Birthday Bash Hall", "type": "Venue", "location": "Mumbai", "specialty": "Birthday", "phone": "9483647371", "email": "bashh

    # Corporate Vendors
    {"name": "Corporate Kitchen", "type": "Catering", "location": "Mumbai", "specialty": "Corporate", "phone": "9812345670", "email": "co
    {"name": "Boardroom Bites", "type": "Catering", "location": "Mumbai", "specialty": "Corporate", "phone": "9812345671", "email": "boar
    {"name": "Minimal Decorators", "type": "Decoration", "location": "Mumbai", "specialty": "Corporate", "phone": "9812345672", "email":
    {"name": "Classy Decor", "type": "Decoration", "location": "Mumbai", "specialty": "Corporate", "phone": "9812345673", "email": "class
    {"name": "Conference Beats", "type": "Music", "location": "Mumbai", "specialty": "Corporate", "phone": "9812345674", "email": "confbe
    {"name": "Techno Tunes", "type": "Music", "location": "Mumbai", "specialty": "Corporate", "phone": "9812345675", "email": "technotune
    {"name": "Boardroom Halls", "type": "Venue", "location": "Mumbai", "specialty": "Corporate", "phone": "9812345676", "email": "boardro
    {"name": "Conf Hub", "type": "Venue", "location": "Mumbai", "specialty": "Corporate", "phone": "9812345677", "email": "confhub@gmail.

    # Wedding Vendors
    {"name": "Sharma Caterers", "type": "Catering", "location": "Mumbai", "specialty": "Wedding", "phone": "9876543210", "email": "sharma
    {"name": "Royal Feasts", "type": "Catering", "location": "Mumbai", "specialty": "Wedding", "phone": "9876543211", "email": "royalfeas
    {"name": "Royal Decor", "type": "Decoration", "location": "Mumbai", "specialty": "Wedding", "phone": "9876543212", "email": "royaldec
    {"name": "Elegant Themes", "type": "Decoration", "location": "Mumbai", "specialty": "Wedding", "phone": "9876543213", "email": "elega
    {"name": "Grand Palace", "type": "Venue", "location": "Mumbai", "specialty": "Wedding", "phone": "9876543214", "email": "grandpalace@
    {"name": "Elegant Banquet", "type": "Venue", "location": "Mumbai", "specialty": "Wedding", "phone": "9876543215", "email": "elegantba
    {"name": "DJ Beats", "type": "Music", "location": "Mumbai", "specialty": "Wedding", "phone": "9876543216", "email": "djbeats@gmail.co
    {"name": "Sangeet Sound", "type": "Music", "location": "Mumbai", "specialty": "Wedding", "phone": "9876543217", "email": "sangeet@gma
]



# Dynamic budget allocation based on event type
def allocate_budget(event_type, total):
    if event_type == "Birthday":
        return {
            "Catering": int(total * 0.20),
            "Decoration": int(total * 0.25),
            "Venue": int(total * 0.30),
            "Music": int(total * 0.15),
            "Misc": total - sum([int(total * p) for p in [0.30, 0.25, 0.20, 0.15]])
        }
    elif event_type == "Corporate":
        return {
            "Catering": int(total * 0.25),
            "Decoration": int(total * 0.20),
            "Venue": int(total * 0.35),
            "Music": int(total * 0.10),
            "Misc": total - sum([int(total * p) for p in [0.35, 0.20, 0.25, 0.10]])
        }
    elif event_type == "Wedding":
        return {
            "Catering": int(total * 0.20),
            "Decoration": int(total * 0.25),
            "Venue": int(total * 0.40),
            "Music": int(total * 0.10),
            "Misc": total - sum([int(total * p) for p in [0.40, 0.25, 0.20, 0.10]])
        }
    else:
        return {}


# Event timeline
def display_timeline(event_type):
    print("\n🗓️ Planning Timeline:")
    if event_type == "Birthday":
        print("- Week 1: Choose venue and theme")
        print("- Week 2: Book decorator and caterer")
        print("- Week 3: Finalize DJ and cake vendor")
        print("- Week 4: Confirm attendees and complete payments")
    elif event_type == "Corporate":
        print("- Week 1: Book venue and send invites")
        print("- Week 2: Finalize catering and tech setup")
        print("- Week 3: Decor setup and speaker confirmations")
        print("- Week 4: Rehearsal and checklist review")
```

```
    elif event_type == "Wedding":
        print("- Week 1: Finalize venue and guest list")
        print("- Week 2: Book caterer and decorator")
        print("- Week 3: Confirm DJ/music and send invites")
        print("- Week 4: Final checklist and payments")


# Vendor Recommendation
def recommend_and_select(vendors, category, location, event, max_budget):
    print(f"\n🎯 Top {category} under budget: ₹{max_budget}")
    options = [
        v for v in vendors
        if v["type"] == category and v["location"].lower() == location.lower()
        and v["specialty"].lower() == event.lower()
        and v["price_range"][0] <= max_budget
    ]
    top_two = sorted(options, key=lambda x: x["rating"], reverse=True)[:2]
    for v in top_two:
        print(f"{v['name']} ⭐{v['rating']} : ₹{v['price_range'][0]}-{v['price_range'][1]}")
    user_choice = input(f"\n Type the name of the vendor you choose for {category}: ").strip().lower()
    selected = next((v for v in top_two if v["name"].lower() == user_choice), None)
    if selected:
        print(f"✅ Chosen Vendor: {selected['name']}\n 📞 Phone: {selected['phone']}  ✉️ Email: {selected['email']}\n")
        return selected
    else:
        print("❌ Vendor not found or name mismatch.\n")
        return None



# Input section

print("🎉 Welcome to the Event Vendor Recommender 🎉\n")
host = input("👤 Enter host name: ")
event = input("📋 Event type (Wedding,Birthday,Corporate): ").capitalize()
location = input("📍 Location (e.g. Mumbai): ").capitalize()
budget = int(input("💰 Total Budget (₹): "))

allocation = allocate_budget(event, budget)
```

```
🎉 Welcome to the Event Vendor Recommender 🎉

👤 Enter host name: mehak
📋 Event type (Wedding,Birthday,Corporate): Wedding
📍 Location (e.g. Mumbai): Mumbai
💰 Total Budget (₹): 100000
```

```
print("🎉 Welcome to the Event Vendor Recommender 🎉\n")
print(f"\n🎉 Event: {event} in {location} | Budget: ₹{budget}")
print(f"👤 Host: {host}\n")

print("💰 Budget Breakdown:")
for k, v in allocation.items():
    print(f"- {k}: ₹{v}")

# Recommendations
chosen = {}
for category in ["Catering", "Decoration", "Venue", "Music"]:
    chosen[category] = recommend_and_select(vendors, category, location, event, allocation[category])

if chosen:
    display_timeline(event)
```

```
🎉 Welcome to the Event Vendor Recommender 🎉


🎉 Event: Wedding in Mumbai | Budget: ₹100000
👤 Host: mehak

💰 Budget Breakdown:
- Catering: ₹20000
- Decoration: ₹25000
- Venue: ₹40000
- Music: ₹10000
- Misc: ₹5000

🎯 Top Catering under budget: ₹20000
Sharma Caterers ⭐4.6 : ₹18000-22000
Royal Feasts ⭐4.5 : ₹17000-25000

 Type the name of the vendor you choose for Catering: Sharma Caterers
✅ Chosen Vendor: Sharma Caterers
 📞 Phone: 9876543210  ✉️ Email: sharmacaterers@gmail.com
```

🎯 Top Decoration under budget: ₹25000
Royal Decor ⭐4.7 : ₹11000–20000
Elegant Themes ⭐4.6 : ₹10000–20000

Type the name of the vendor you choose for Decoration: Royal Decor
✅ Chosen Vendor: Royal Decor
📞 Phone: 9876543212 ✉️ Email: royaldecor@gmail.com

🎯 Top Venue under budget: ₹40000
Elegant Banquet ⭐4.6 : ₹17000–31000
Grand Palace ⭐4.5 : ₹18000–42000

Type the name of the vendor you choose for Venue: Elegant Banquet
✅ Chosen Vendor: Elegant Banquet
📞 Phone: 9876543215 ✉️ Email: elegantbanquet@gmail.com

🎯 Top Music under budget: ₹10000
DJ Beats ⭐4.4 : ₹8000–15000
Sangeet Sound ⭐4.3 : ₹7500–15000

Type the name of the vendor you choose for Music: DJ Beats
✅ Chosen Vendor: DJ Beats
📞 Phone: 9876543216 ✉️ Email: djbeats@gmail.com

🗓️ Planning Timeline:
- Week 1: Finalize venue and guest list
- Week 2: Book caterer and decorator
- Week 3: Confirm DJ/music and send invites
- Week 4: Final checklist and payments