

```
1  import datetime
2  import random
3  from matplotlib import pyplot as plt
4
5  assignments = []
6
7  funny_messages = {
8      "high": ["Emergency! Finish it now!", "High-priority mission!", "Hurry, ASAP!"],
9      "medium": ["Medium task, keep on track!", "Focus, it waits!", "Keep an eye on this!"],
10     "low": ["Low-priority, you have time!", "Relax, do it later!", "Easy task, don't rush!"]
11 }
12
13 def calc_priority(due_date):
14     days = (due_date - datetime.date.today()).days
15     if days <= 1:
16         return "high"
17     if days <= 3:
18         return "medium"
19     return "low"
20
21 def add_assignment():
22     title = input("Enter assignment title: ").strip()
23     if not title:
24         return
25     subject = input("Enter subject: ").strip()
26     if not subject:
27         return
28     due_str = input("Enter due date (YYYY-MM-DD): ").strip()
29     try:
30         due_date = datetime.datetime.strptime(due_str, "%Y-%m-%d").date()
31     except:
32         print("Invalid date format!")
```

```

31  except:
32      print("Invalid date format!")
33      return
34  priority = calc_priority(due_date)
35  assignments.append({"title": title, "subject": subject, "due_date": due_date,
36                      "priority": priority, "completed": False})
37  print(f"\n'{title}' added! Priority: {priority.upper()}")
38  print(random.choice(funny_messages[priority]))
39  input("\nPress Enter to return to menu...")
40
41  def show_schedule():
42      pending = [a for a in assignments if not a["completed"]]
43      if not pending:
44          print("\nNo pending assignments!")
45          input("\nPress Enter to return to menu...")
46          return
47      pending.sort(key=lambda x: (x["due_date"], x["priority"]))
48      print("\n--- Today's Schedule ---")
49      for a in pending:
50          days = (a["due_date"] - datetime.date.today()).days
51          print(f"{a['title']} ({a['subject']}) | Due in {days} days | Priority: {a['priority'].upper()}")
52          print(" " + random.choice(funny_messages[a['priority']]))
53      input("\nPress Enter to return to menu...")
54
55  def list_assignments():
56      print("\n--- All Assignments ---")
57      for idx, a in enumerate(assignments):
58          status = "Completed" if a["completed"] else "Pending"

```

```

58         status = "Completed" if a["completed"] else "Pending"
59         print(f"{idx+1}. {a['title']} ({a['subject']}) | {status} | Priority: {a['priority'].upper()}")
60         input("\nPress Enter to return to menu...")
61
62 ✓ def mark_completed():
63     list_assignments()
64 ✓     try:
65         idx = int(input("\nEnter assignment number to mark completed: ")) - 1
66 ✓         if idx < 0 or idx >= len(assignments):
67             print("Invalid number!")
68             input("\nPress Enter to return to menu...")
69             return
70         assignments[idx]["completed"] = True
71         a = assignments[idx]
72         print(f"\n'{a['title']}' marked completed!")
73         print(random.choice(funny_messages[a['priority']]))
74 ✓     except:
75         print("Invalid input!")
76         input("\nPress Enter to return to menu...")
77
78 ✓ def show_stats():
79     total = len(assignments)
80     completed = sum(a["completed"] for a in assignments)
81     pending = total - completed
82     counts = {"high": 0, "medium": 0, "low": 0}
83 ✓     for a in assignments:
84 ✓         if not a["completed"]:
85             counts[a["priority"]] += 1
86
87     print(f"\n--- Stats ---")

```

```

87 print(f"\n--- Stats ---")
88 print(f"Total: {total} | Completed: {completed} | Pending: {pending}")
89 print(f"High: {counts['high']} | Medium: {counts['medium']} | Low: {counts['low']}")
90
91 plt.figure(figsize=(5, 5))
92 plt.bar(["High", "Medium", "Low"], [counts["high"], counts["medium"], counts["low"]],
93 | | color=[█ "#8B0000", █ "#FF8C00", █ "#006400"])
94 plt.title("Pending Assignments by Priority")
95 plt.ylabel("Number of Assignments")
96 plt.show()
97
98 plt.figure(figsize=(5, 5))
99 plt.bar(["Completed", "Pending"], [completed, pending], color=[█ "#006400", █ "#8B0000"])
100 plt.title("Completed vs Pending Assignments")
101 plt.ylabel("Number of Assignments")
102 plt.show()
103
104 input("\nPress Enter to return to menu...")
105
106 def main():
107 while True:
108     print("\n--- Due Date Ninja ---")
109     print("1. Add Assignment")
110     print("2. Show Schedule")
111     print("3. List Assignments")
112     print("4. Mark Completed")
113     print("5. Show Stats & Charts")
114     print("6. Exit")
115     choice = input("Choose an option: ").strip()
116     if choice == "1":

```

```
116 ✓ if choice == "1":
117     |     add_assignment()
118 ✓ elif choice == "2":
119     |     show_schedule()
120 ✓ elif choice == "3":
121     |     list_assignments()
122 ✓ elif choice == "4":
123     |     mark_completed()
124 ✓ elif choice == "5":
125     |     show_stats()
126 ✓ elif choice == "6":
127     |     break
128 ✓ else:
129     |     print("Invalid choice!")
130     |     input("\nPress Enter to return to menu...")
131
132 ✓ if __name__ == "__main__":
133     |     main()
134
```

--- Due Date Ninja ---

1. Add Assignment
2. Show Schedule
3. List Assignments
4. Mark Completed
5. Show Stats & Charts
6. Exit

Choose an option: