



INFORMATICS
INSTITUTE OF
TECHNOLOGY

Course	: Foundation Certificate Programm
Module	: Introduction to Programming Principles
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Assignment Type	: Individual
Issue Date	: 13th November 2023
Hand – in – Date	: 11 th December 2023
Deadline	: on or before 9.00 AM
Student Id	: 20230469

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1. Figure 01

XYZ Company
Main Menu

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit

Your Choice:

1.1 Algorithm

Step 01 :-Start

Step 02:- Initializing the variables no_workers ,no_projects ,upd_dtls ,n_workers

Step 03:-Using While Loop For the repetition

Step 04:-Printing Options Under The while Loop

Step 05:-Ask User to input Option to processed

Step 06:-Stop

1.2 Python Code

```
1 #initializing Variables
2 no_workers = 50
3 no_projects = 0
4 upd_dtls = 0
5 n_workers = 0
6 index = 0
7
8 #lists to store project Details
9 allprojects = []
10 proj_codes = []
11 rem_codes = []
12
13 #counters for project statistics
14 ong_projects = 0
15 completed = 0
16 hold_projects = 0
17
18 # Main program loop
19 while True:
20     # Display menu options
21     print()
22     print()
23     print()
24     print("1. Add a new project to existing projects.")
25     print("2. Remove a completed project from existing projects.")
26     print("3. Add new workers to the available workers group.")
27     print("4. Update details on ongoing projects.")
28     print("5. Project Statistics")
29     print("6. Exit")
30
31     # User input for menu option
32     opt = int(input("Enter an option to continue: "))
33
```

1.3 Test Cases

Test Case	Input	Expected Output	Actual Output	Remarks
(01)	1	Ask to insert Project Details	Asking insert the project details	Pass
(02)	2	Ask the project code remove specific project	Ask the project code remove specific project	Pass
(03)	3	Ask add workers for the available workers group	Ask add workers for the available workers group	Pass
(04)	4	Ask update details on ongoing projects	Ask update details on ongoing projects	Pass
(05)	5	Display The Project Status	Display The Project Status	Pass
(06)	6	Program Must exit	Program Must exit	Pass

1.4 Results Of Test Cases

1.4.1.ScreenShot Of Test Case 01

```
= RESTART: E:\IIT Course Work\Foundation\Python Project\Final
ized Main Code.py

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 1
                                XYZ Company
                                Add a New Project
Enter the project code:
```

1.4.2.ScreenShot Of Test Case 02

```
= RESTART: E:\IIT Course Work\Foundation\Python Project\Final
ized Main Code.py

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 2
                                XYZ Company
                                Remove Completed Project
Enter The Project code to remove:
```

1.4.3.ScreenShot Of Test Case 03

```
= RESTART: E:\IIT Course Work\Foundation\Python Project\Final
ized Main Code.py

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 3
                                XYZ Company

                                Add Workers

Number of workers to add: |
```

1.4.1.ScreenShot Of Test Case 04

```
= RESTART: E:\IIT Course Work\Foundation\Python Project\Final
ized Main Code.py

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 4
                                XYZ Company

                                Update Details on ongoing Projects

Project Code:
```

1.4.1.ScreenShot Of Test Case 05

```
= RESTART: E:\IIT Course Work\Foundation\Python Project\Final
ized Main Code.py

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 5

                                XYZ Company

                                Project Statistics

Number of ongoing projects - 0
Number of completed projects - 0
Number of on-hold projects - 0
Number of available workers to assign - 50

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: |
```

1.4.6.ScreenShot Of Test Case 06

```
= RESTART: E:\IIT Course Work\Foundation\Python Project\Final
ized Main Code.py

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 6
Exiting Programme...
```


2. Figure 02

XYZ Company		
Add a new project.		
Project Code	-	** Enter '0' to Project Code to exit.
Clients Name	-	
Start date	-	
Expected end date	-	
Number of workers	-	
Project status	-	
Do you want to save the project (Yes/No)?		

2.1 Algorithm

Step 01:-Start

Step 02:-Printing XYZ Company & Printing add new Project

Step 03:-Ask For the project code, If Project code exists print an error message

Step 04:-Ask for the Clients Name, starting date, ending date, no of workers & project status

Step 05:-Check Whether there are sufficient workers available or not

Step 06:-Ask to Save Details or not

Step 07:-If user enter yes save the details on the lists

Step 08:-Stop

2.2 Python Code

```
Finalized Main Code.py - E:\IT Course Work\Foundation\Python Project\Finalized Main Code.py (3.12.0)
File Edit Format Run Options Window Help
32 opt = int(input("Enter an option to continue: "))
33
34 # Option 1: Add a new project
35 if opt == 1:
36     print("XYZ Company".center(75))
37     print("Add a New Project".center(75))
38
39     # User input for project details
40     p_code = int(input("Enter the project code: "))
41     if p_code in proj_codes:
42         print("This project code already exists. Please enter a new project code |")
43     else:
44         clt_name = input("Enter the client's Name: ")
45         s_date = input("Enter The Starting Date: ")
46         end_date = input("Enter the ending date: ")
47         n_workers = int(input("Number of workers: "))
48         pro_status = str(input("Project Status (ongoing, hold, or completed): "))
49         upd_dtls = input("If You Want to Update Details (yes/no)?")
50
51         # Check if there are enough workers
52         if no_workers > n_workers:
53             print()
54             if upd_dtls == "yes":
55                 # Update project details
56                 projects=[]
57                 no_projects += 1
58                 no_workers -= n_workers
59                 projects.append(p_code)
60                 proj_codes.append(p_code)
61                 projects.append(clt_name)
62                 projects.append(s_date)
63                 projects.append(end_date)
64                 projects.append(n_workers)
65                 projects.append(pro_status)
66                 allprojects.append(projects)
67
68                 # Update project statistics based on status
69                 if pro_status == "completed":
70                     completed += 1
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2.3 Test Cases

Test Case	Input	Expected Output	Actual Output	Remarks
01.	Entering Existing Project Code	Error Message "This project already exists"	"This project code already exists. Please enter a new project code."	Pass
02.	Entering workers for the project more than available	Error message "Workers are Not Sufficient"	"Workers are not sufficient, add workers from option 3"	Pass
03.	Asking User to update inserted details	If You Want to Update Details yes or no	If You Want to Update Details yes or no	Pass
04.	Ask the Project Status form user	Project Status ongoing, hold, or completed	Project Status (ongoing, hold, or completed):	Pass
05.	Append The Project Details To the lists	Appending Data for lists	Appending Data for lists	Pass

2.4 Results Of Test Cases

2.4.1 Screenshot Of Test Case 01

```
*IDLE Shell 3.12.0*
File Edit Shell Debug Options Window Help

                                Add a New Project

Enter the project code: 1
Enter the client's Name: Disandu
Enter The Starting Date: 2023/10/10
Enter the ending date: 2023/12/10
Number of workers: 20
Project Status (ongoing, hold, or completed): ongoing
If You Want to Update Details (yes/no)?yes

Project Details Updated, Thank you

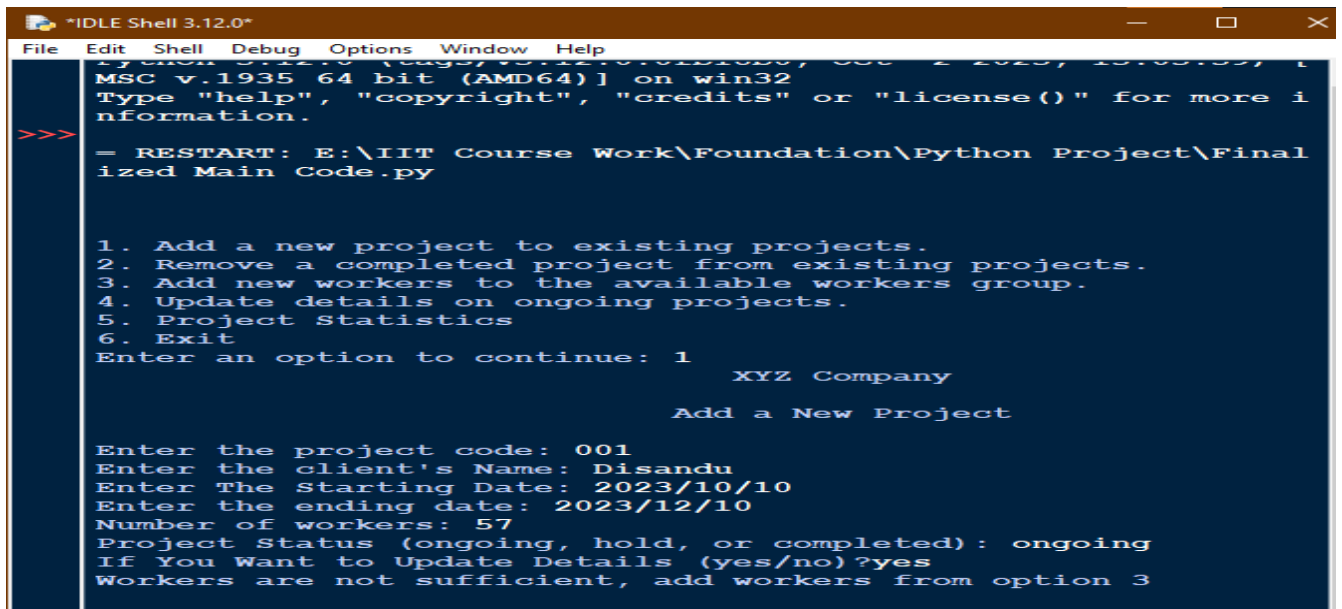
1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 1

                                XYZ Company

                                Add a New Project

Enter the project code: 1
This project code already exists. Please enter a new project
code.
```

2.4.2 Screenshot Of Test Case 02



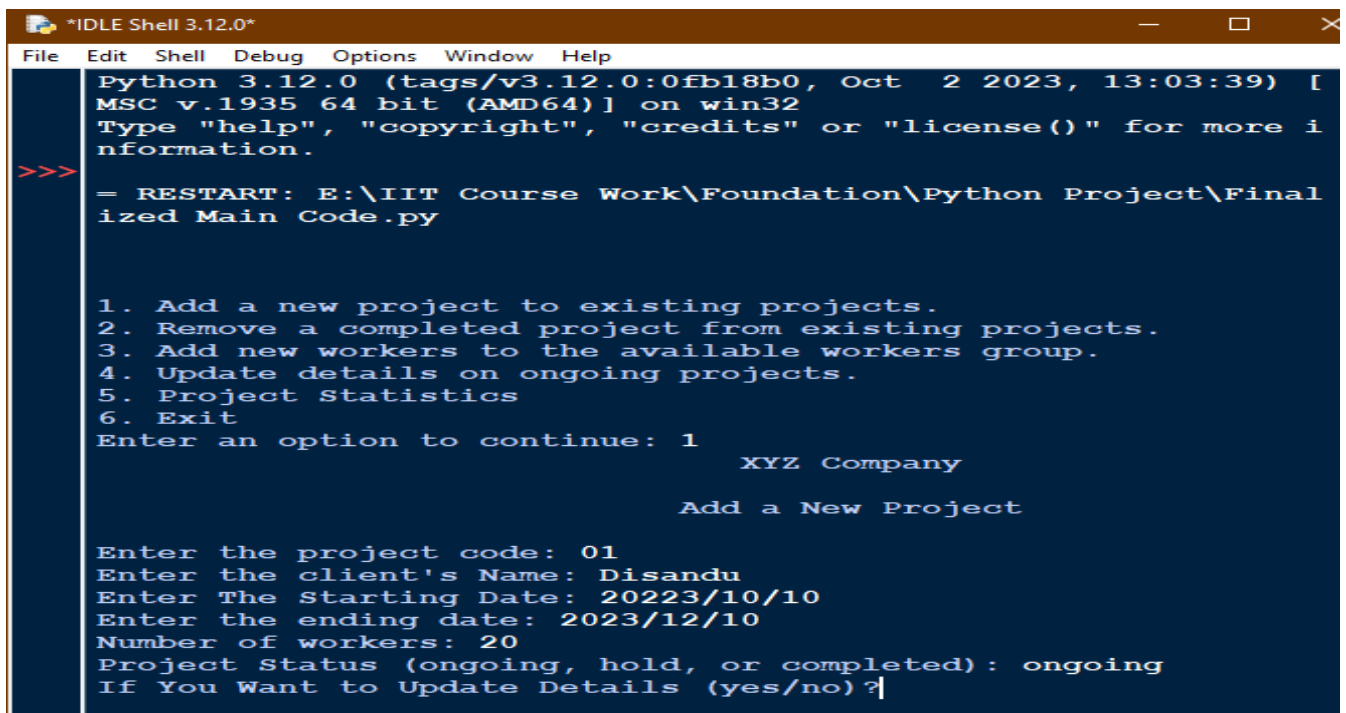
The screenshot shows the IDLE Shell 3.12.0 window. The command prompt displays the following text:

```
Python 3.12.0 (tags/v3.12.0:0fb18b0, Oct 2 2023, 13:03:39) [
MSC v.1935 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more i
nformation.
>>>
= RESTART: E:\IIT Course Work\Foundation\Python Project\Final
ized Main Code.py

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 1
                                XYZ Company
                                Add a New Project

Enter the project code: 001
Enter the client's Name: Disandu
Enter The Starting Date: 2023/10/10
Enter the ending date: 2023/12/10
Number of workers: 57
Project Status (ongoing, hold, or completed): ongoing
If You Want to Update Details (yes/no)?yes
Workers are not sufficient, add workers from option 3
```

2.4.3 Screenshot Of Test Case 03



The screenshot shows the IDLE Shell 3.12.0 window. The command prompt displays the following text:

```
Python 3.12.0 (tags/v3.12.0:0fb18b0, Oct 2 2023, 13:03:39) [
MSC v.1935 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more i
nformation.
>>>
= RESTART: E:\IIT Course Work\Foundation\Python Project\Final
ized Main Code.py

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 1
                                XYZ Company
                                Add a New Project

Enter the project code: 01
Enter the client's Name: Disandu
Enter The Starting Date: 20223/10/10
Enter the ending date: 2023/12/10
Number of workers: 20
Project Status (ongoing, hold, or completed): ongoing
If You Want to Update Details (yes/no)?|
```

2.4.4 Screenshot Of Test Case 04

```
"IDLE Shell 3.12.0"
Edit Shell Debug Options Window Help
Python 3.12.0 (tags/v3.12.0:0fb18b0, Oct 2 2023, 13:03:39)
MSC v.1935 64 bit (AMD64) on win32
Type "help", "copyright", "credits" or "license()" for more
>
= RESTART: E:\IIT Course Work\Foundation\Python Project\Final
ized Main Code.py

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 1
                                XYZ Company
                                Add a New Project

Enter the project code: 01
Enter the client's Name: Disandu
Enter The Starting Date: 20223/10/10
Enter the ending date: 2023/12/10
Number of workers: 20
Project Status (ongoing, hold, or completed): ongoing
```

2.4.5 Screenshot Of Test Case 05

```
= RESTART: E:\IIT Course Work\Foundation\Python Project\Final
ized Main Code.py

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 1
                                XYZ Company
                                Add a New Project

Enter the project code: 01
Enter the client's Name: Disandu
Enter The Starting Date: 2023.10.10
Enter the ending date: 2023.12.10
Number of workers: 23
Project Status (ongoing, hold, or completed): ongoing
If You Want to Update Details (yes/no)?yes

[1, 'Disandu', '2023.10.10', '2023.12.10', 23, 'ongoing']
Disandu
2023.10.10
2023.12.10
23
Project Details Updated, Thank you
```

3. Figure 03

XYZ Company
Remove Completed Project

Project Code –

Do you want to remove the project (Yes/No)?

3.1 Algorithm

Step 01:-Start

Step 02:-Ask user to enter the Project code

Step 03:-Check the project code existing if not show error message

Step 04:-Ask from user to remove the project

Step 05:- If the user gives Yes Remove the project from project list

Step 06:-Add one to completed project and subtract one from the ongoing project

Step 07:-Stop

3.2 Python Code

```
81 # Option 2: Remove a completed project
82 elif opt == 2:
83     print("XYZ Company".center(75))
84     print("Remove Completed Project".center(75))
85
86     # User input for project code to remove
87     p_code = int(input("Enter The Project code to remove: "))
88     upd_dtls = input("If you want to remove project (yes/no)?")
89
90     if upd_dtls == "yes":
91         # Check if the project code exists
92         if p_code in proj_codes:
93             print(proj_codes)
94             rem_codes.append(p_code)
95             print(allprojects)
96             index = proj_codes.index(p_code)
97             no_workers = no_workers + allprojects[index][4]
98             del allprojects[index]
99             proj_codes.remove(p_code)
100             completed = completed + 1
101             ong_projects = ong_projects - 1
102             print()
103             print()
104             print()
105             print(proj_codes)
106             print(allprojects)
107         else:
108             print("Project Code not found.")
109     else:
110         print("Project Not Removed")
111
112
```

3.3 Test Cases

Test Cases	Input	Expected Output	Actual Output	Remarks
01.	Check if entered project code exist	If project code not there print error message	prompting "Project Code not found"	Pass
02.	Ask from user delete the project or not	Print If you want to delete the project	Printing "If you want to delete the project"(Yes/No)	Pass
03.	Number of workers when project deleted	Add removed workers to the available workers	Adding them to available workers group	Pass
04.	After Removing the project	Delete the project from project List	Deleting project from project list after user enters yes	Pass
05.	After Removing the project	Changing Number of completed and ongoing	Add 1 to completed and subtract 1 from	Pass

3.4 Results Of Test Cases

3.4.1 Screenshot of Test Case 01

```
= RESTART: E:\IIT Course Work\Foundation\Python Project\Final
ized Main Code.py

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 2
                                XYZ Company

                                Remove Completed Project

Enter The Project code to remove: 123
If you want to remove project (yes/no)?yes
Project Code not found.
```

3.4.2 Screenshot Of Test case 02

```
1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 2
                                XYZ Company

                                Remove Completed Project

Enter The Project code to remove: 23
If you want to remove project (yes/no)?
```

3.4.3 Screenshot Of Test case 03

```
XYZ Company
Remove Completed Project

Enter The Project code to remove: 23
If you want to remove project (yes/no)?yes
[23]
no of workers availble before deleting project 36
[[23, 'Disandu', '2023.10.19', '2023.12.24', 14, 'ongoing']]

[]
[]
no of workers availble after deleting project 50
```

3.4.4 Screenshot Of Test case 04

```
Enter an option to continue: 2
XYZ Company
Remove Completed Project
Enter The Project code to remove: 002
If you want to remove project (yes/no)?yes
[1, 2, 3]
no of workers availble before deleting project 8
[[1, 'DISANDU', '2023.10.10', '2024.11.14', 13, 'onoging'], [2, 'Sanhida', '2023.09.01', '2023.12.29', 19, 'ongoing'], [3, 'Sahan', '2023.11.10', '2025.02.17', 10, 'ongoing']]

[1, 3]
[[1, 'DISANDU', '2023.10.10', '2024.11.14', 13, 'onoging'], [3, 'Sahan', '2023.11.10', '2025.02.17', 10, 'ongoing']]
no of workers availble after deleting project 27
```

3.4.5 Screenshot of Test case 05

```
Enter an option to continue: 2
XYZ Company
Remove Completed Project
Enter The Project code to remove: 002
If you want to remove project (yes/no)?yes
[1, 2, 3]
no of workers availble before deleting project 8
[[1, 'DISANDU', '2023.10.10', '2024.11.14', 13, 'onoging'], [2, 'Sanhida', '2023.09.01', '2023.12.29', 19, 'ongoing'], [3, 'Sahan', '2023.11.10', '2025.02.17', 10, 'ongoing']]

[1, 3]
[[1, 'DISANDU', '2023.10.10', '2024.11.14', 13, 'onoging'], [3, 'Sahan', '2023.11.10', '2025.02.17', 10, 'ongoing']]
no of workers availble after deleting project 27
```


XYZ Company

Remove Completed Project

Enter The Project code to remove: 001

If you want to remove project (yes/no)?yes

[1]

no of workers availble before deleting project 38

[[1, 'Disandu', '2023/10/19', '2023/12/10', 12, 'ongoing']]

[]

[]

no of workers availble after deleting project 50

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit

Enter an option to continue: 5

XYZ Company

Project Statistics

Number of ongoing projects - 0

Number of completed projects - 1

Number of on-hold projects - 0

Number of available workers to assign - 50

4. Figure 04

<i>XYZ Company</i>		
Update Project Details		
Project Code	-	** Enter '0' to Project Code to exit.
Clients Name	-	
Start date	-	
Expected end date	-	
Number of workers	-	
Project status	-	
Do you want to update the project details (Yes/No)?		

4.1 Algorithm

Step 01:-Ask from user to enter the project number which must update

Step 02:-Get the clients name, start date, expected end date, number workers & project status

Step 03:-Update data in allprojectslist with new entered data

Step 04:-Change the previous project status to the new entered one

Step 05:-Ask from user to save the new details or not

Step 06:-Stop

4.2 Python Code

```
Finalized Main Code.py - E:\IT Course Work\Foundation\Python Project\Finalized Main Code.py (3,12,0)
File Edit Format Run Options Window Help
print("Update Details on ongoing Projects".center(75))
p_code = int(input("Project Code: "))

# Check if the project code exists
if p_code in proj_codes:
    clt_name = input("Enter the client's Name: ")
    s_date = input("Enter The Starting Date: ")
    end_date = input("Enter the ending date: ")
    n_workers = int(input("Number of workers: "))
    pro_status = str(input("Project Status (ongoing, hold, or completed): "))
    upd_dtls = input("If you want to update the project details (yes/no)?")

    if upd_dtls == "yes":
        allprojects[index][1] = clt_name
        allprojects[index][2] = s_date
        allprojects[index][3] = end_date
        allprojects[index][4] = n_workers
        allprojects[index][5] = pro_status

        # Update project statistics based on status
        if pro_status == "completed":
            completed += 1
            ong_projects -= 1
            no_workers += n_workers
        elif pro_status == "hold":
            hold_projects += 1
            ong_projects -= 1
            no_workers += n_workers
        elif pro_status == "ongoing":
            print(allprojects)
            print("Project details updated successfully!")

    elif upd_dtls == "no":
        print("Sorry Project Details Not Updated")
        print(allprojects)
else:
    print("This project code does not exist. Please enter a valid project code.")
```

4.3 Test Cases

Test Case	Input	Expected Output	Actual Ouput	Remarks
01.	Details Updating When user enters yes	Appending New details on the specific list	Appending New details on the specific list	Pass
02.	Wrong Project Entering	Displaying Error message	Displaying "Please Enter valid project code	Pass
03.	When Project status changing to "HOLD"	No. of available workers ,must increase	No.of available workers must increase	Pass
04.	When Project status Changing	No of workers must increase & project status must be completed	No of workers must increase & project status must be completed	Pass
05.	When user enters No	Displaying a message "Details not updated"	Displaying a message "Details not updated"	Pass

4.4 Results Of Test Cases

4.4.1. Screehnshots of Test Case 01

```
                                Add a New Project
Enter the project code: 23
Enter the client's Name: disandu
Enter The Starting Date: 2023/10/10
Enter the ending date: 2024/10/29
Number of workers: 24
Project Status (ongoing, hold, or completed): ongoing
If You Want to Update Details (yes/no)?yes

Project Details Updated, Thank you
|

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 4

                                XYZ Company
                                Update Details on ongoing Projects
Project Code: 23
Enter the client's Name: Miheli
Enter The Starting Date: 2035
Enter the ending date: 2043
Number of workers: 24
Project Status (ongoing, hold, or completed): ongoing
If you want to update the project details (yes/no)?yes
[[23, 'Miheli', '2035', '2043', 24, 'ongoing']]
[[23, 'Miheli', '2035', '2043', 24, 'ongoing']]
Project details updated successfully!
```

4.4.2 Screenshot of Test case 02

```
1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 4

                                XYZ Company
                                Update Details on ongoing Projects
Project Code: 789
This project code does not exist. Please enter a valid project code.
```

4.4.3 Screenshot of Test case 03

```

                                XYZ Company
                                Project Statistics
Number of ongoing projects - 1
Number of completed projects - 0
Number of on-hold projects - 0
Number of available workers to assign - 38

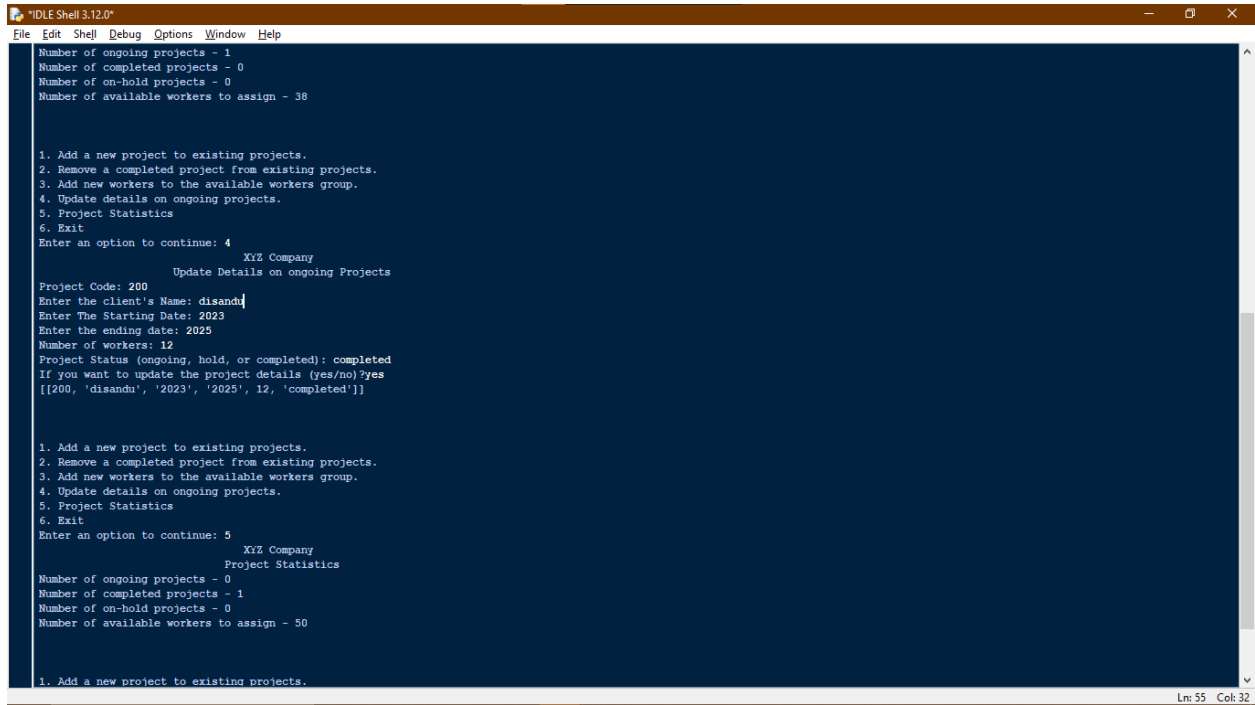
1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 4

                                XYZ Company
                                Update Details on ongoing Projects
Project Code: 200
Enter the client's Name: disandu
Enter The Starting Date: 2023
Enter the ending date: 2025
Number of workers: 12
Project Status (ongoing, hold, or completed): hold
If you want to update the project details (yes/no)?yes
[[200, 'disandu', '2023', '2025', 12, 'hold']]

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 5

                                XYZ Company
                                Project Statistics
Number of ongoing projects - 0
Number of completed projects - 0
Number of on-hold projects - 1
Number of available workers to assign - 50
```

4.4.4 Screenshot of Test case 04



```
"IDLE Shell 3.12.0"
File Edit Shell Debug Options Window Help

Number of ongoing projects - 1
Number of completed projects - 0
Number of on-hold projects - 0
Number of available workers to assign - 38

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 4

      XYZ Company
    Update Details on ongoing Projects
Project Code: 200
Enter the client's Name: disandu
Enter The Starting Date: 2023
Enter the ending date: 2025
Number of workers: 12
Project Status (ongoing, hold, or completed): completed
If you want to update the project details (yes/no)?yes
[[200, 'disandu', '2023', '2025', 12, 'completed']]

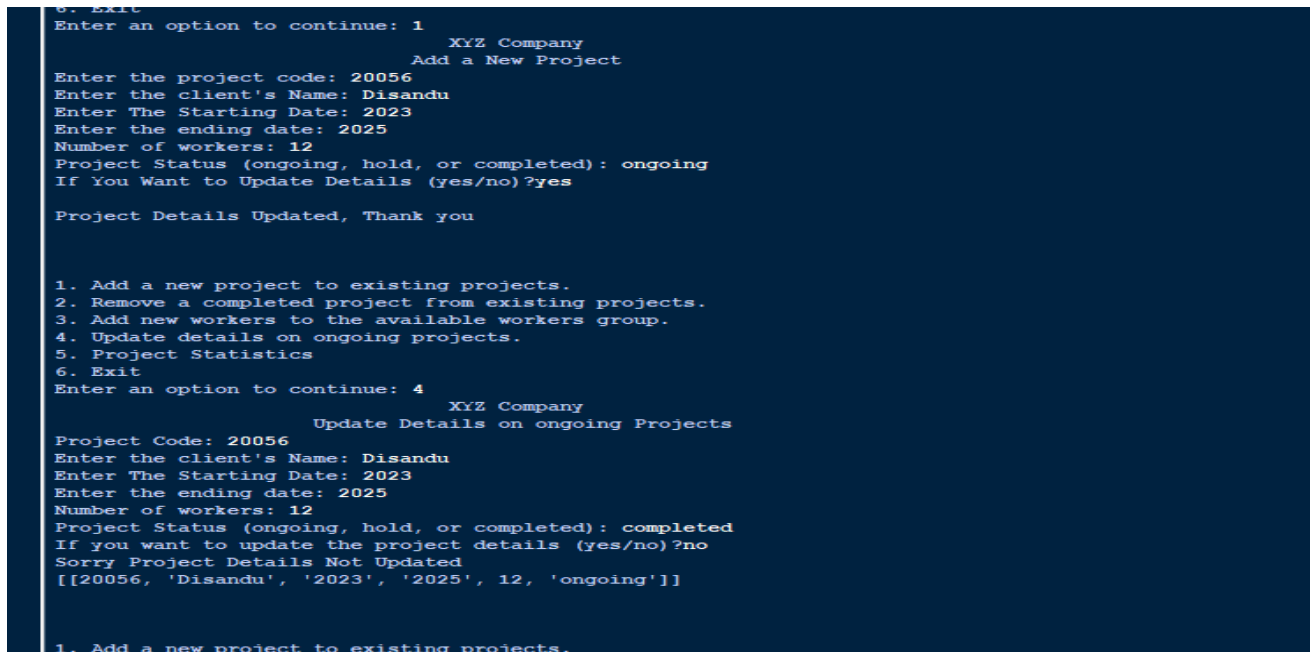
1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 5

      XYZ Company
    Project Statistics
Number of ongoing projects - 0
Number of completed projects - 1
Number of on-hold projects - 0
Number of available workers to assign - 50

1. Add a new project to existing projects.
```

Ln: 55 Col: 32

4.4.5 Screenshot of Test case 05



```
6. Exit
Enter an option to continue: 1

      XYZ Company
    Add a New Project
Enter the project code: 20056
Enter the client's Name: Disandu
Enter The Starting Date: 2023
Enter the ending date: 2025
Number of workers: 12
Project Status (ongoing, hold, or completed): ongoing
If You Want to Update Details (yes/no)?yes

Project Details Updated, Thank you

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 4

      XYZ Company
    Update Details on ongoing Projects
Project Code: 20056
Enter the client's Name: Disandu
Enter The Starting Date: 2023
Enter the ending date: 2025
Number of workers: 12
Project Status (ongoing, hold, or completed): completed
If you want to update the project details (yes/no)?no
Sorry Project Details Not Updated
[[20056, 'Disandu', '2023', '2025', 12, 'ongoing']]

1. Add a new project to existing projects.
```

5. Figure 05

XYZ Company
Add new workers

Number workers to add -

Do you want to add (Yes/No)?

Figure 5

5.1 Algorithm

Step 01:- Start

Step 02:-Ask user to input number of workers to add to workers group

Step 03:-Ask from user the workers group update it or not

Step 04:-no_workers=no_workers+n_workers

Step 05:-Displaying Prompt update successfully

Step 06:-Stop

5.2 Python Code

```
Finalized Main Code.py - E:\IIT Course Work\Foundation\Python Project\Finalized Main Code.py (3.12.0)
File Edit Format Run Options Window Help

# Option 3: Add workers
elif opt == 3:
    print("XYZ Company".center(75))
    print("Add Workers".center(75))

    # User input for the number of workers to add
    n_workers = int(input("Number of workers to add: "))
    upd_dtls = input("If you want to update the number of workers (yes/no)?")

    # Check if the user wants to update the number of workers
    if upd_dtls == "yes":
        no_workers += n_workers
        print("Number of workers updated, Thank you")
        print("No of Workers available", no_workers)
    else:
        print("Sorry, the number of workers is not updated")
```

5.3 Test Cases

Test Cases	Input	Expected Output	Actual Output	Remarks
01	No.of workers to add	Ask to Enter the No.of Workers to add	Ask to Enter the No.of Workers to add	Pass
02	Yes or No	Asking from user to workers to available group or not	Asking from user to workers to available group or not	Pass
03	Add inserted number of workers to available group	Available workers must equals to previous workers +newly added workers	Available workers must equals to previous workers +newly added workers	Pass

5.4 Resultss Of Test Cases

5.4.1 Screenshot Of Test case 01

```
1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 3
                                XYZ Company
                                Add Workers

Number of workers to add: |
```


5.4.2 Screenshot Of Test case 02

```
1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 3
                                XYZ Company
                                Add Workers

Number of workers to add: 15
If you want to update the number of workers (yes/no)?yes|
```

5.4.3 Screenshot Of Test Case 03

```
1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 3
                                XYZ Company
                                Add Workers

Number of workers to add: 15
If you want to update the number of workers (yes/no)?yes
Number of workers updated, Thank you
No of Workers available 65
```

6. Figure 06

<i>XYZ Company</i>	
Project Statistics	
Number of ongoing projects	-
Number of completed projects	-
Number of on hold projects	-
Number of available workers to assign	-
Do you want to add the project (Yes/No)? __	

Figure 6

6.1 Algorithm

Step 01:-Start

Step 02:-Display The Number of Ongoing Projects

Step 03:-Display The Number of Completed Projects

Step 04:-Display the number of hold projects

Step 05:-Display the number of workers to assign

Step 06:-Ask From User to Add project Yes / No

Step 07:- Stop

6.2 Python Code

```
# Option 5: Display project statistics
elif opt == 5:
    print("XYZ Company".center(75))
    print("Project Statistics".center(75))
    print("Number of ongoing projects -", ong_projects)
    print("Number of completed projects -", completed)
    print("Number of on-hold projects -", hold_projects)
    print("Number of available workers to assign -", no_workers)
```

6.3 Test Cases

Test Case	Input	Expected Output	Actual Output	Remarks
01.	Assigning Workers to Projects	No .of workers to assign Decreases	No.of Workers to assign Decreases	Pass
02.	Changing Ongoing Project to hold project	No. of Hold Increases and No .of Ongoing must decrease	No. of Hold Increases and No .of Ongoing must decrease	Pass
03.	Removing Project	No .of Completed must increase &No of Ongoing must decrease	No .of Completed must increase &No of Ongoing must decrease	Pass
04.	Removing Project	No. of available workers Increase	No. of available workers Increase	Pass

6.4 Results Of Test Cases

6.4.1 Screen Shot of Test Case 01

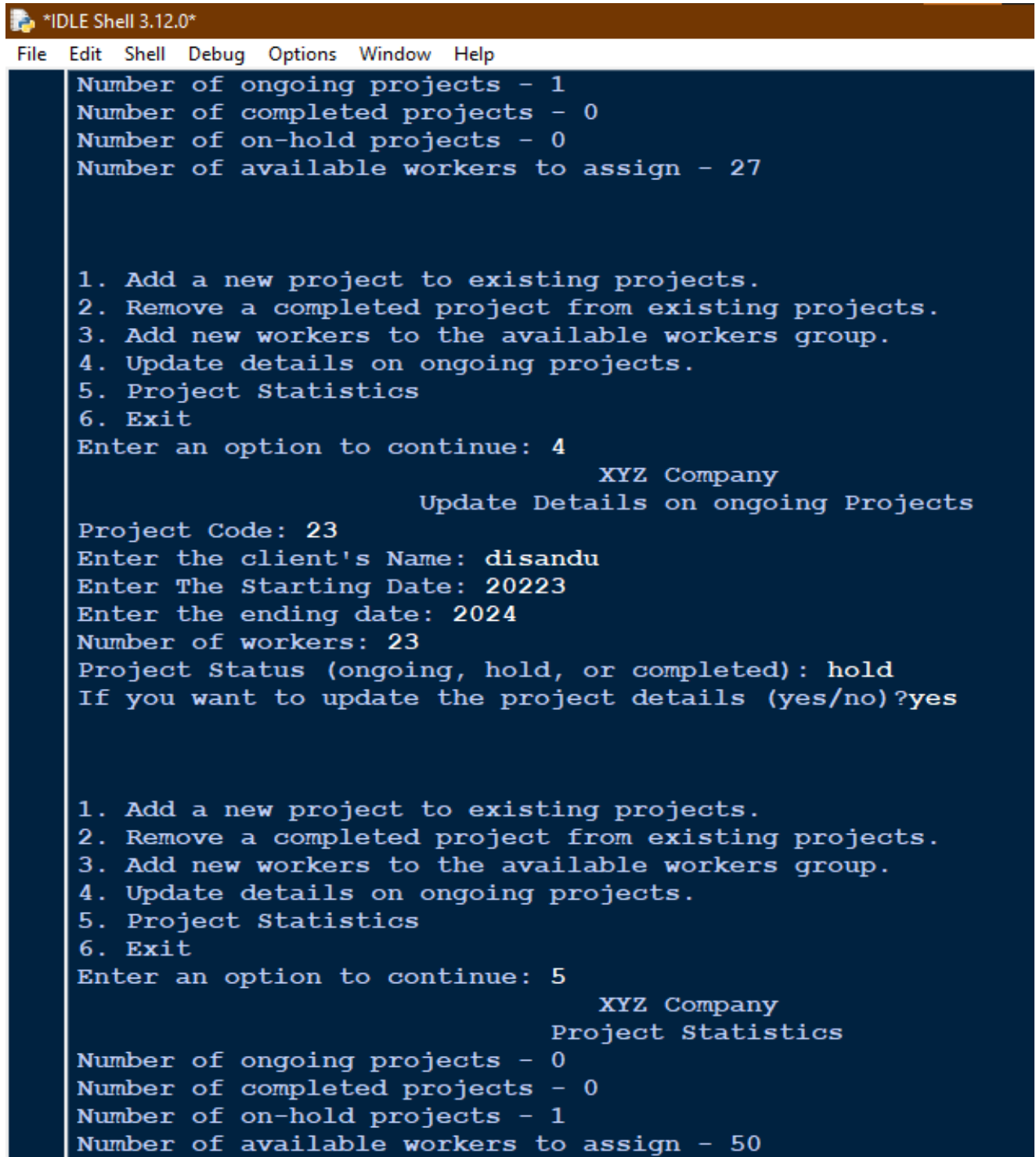
```
*IDLE Shell 3.12.0*
File Edit Shell Debug Options Window Help
Number of on-hold projects - 0
Number of available workers to assign - 50

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 1
                                XYZ Company
                                Add a New Project
Enter the project code: 123
Enter the client's Name: Disandu
Enter The Starting Date: 2023
Enter the ending date: 2025
Number of workers: 14
Project Status (ongoing, hold, or completed): ongoing
If You Want to Update Details (yes/no)?yes

Project Details Updated, Thank you

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 5
                                XYZ Company
                                Project Statistics
Number of ongoing projects - 1
Number of completed projects - 0
Number of on-hold projects - 0
Number of available workers to assign - 36
```

6.4.2 Screen Shot of Test Case 02



```
*IDLE Shell 3.12.0*
File Edit Shell Debug Options Window Help

Number of ongoing projects - 1
Number of completed projects - 0
Number of on-hold projects - 0
Number of available workers to assign - 27

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 4

                                XYZ Company
                                Update Details on ongoing Projects
Project Code: 23
Enter the client's Name: disandu
Enter The Starting Date: 20223
Enter the ending date: 2024
Number of workers: 23
Project Status (ongoing, hold, or completed): hold
If you want to update the project details (yes/no)?yes

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 5

                                XYZ Company
                                Project Statistics
Number of ongoing projects - 0
Number of completed projects - 0
Number of on-hold projects - 1
Number of available workers to assign - 50
```

6.4.3 Screenshot Of Test Case 03

```
                                Add a New Project
Enter the project code: 23
Enter the client's Name: Disandu
Enter The Starting Date: 2023
Enter the ending date: 2024
Number of workers: 14
Project Status (ongoing, hold, or completed): ongoing
If You Want to Update Details (yes/no)?yes

Project Details Updated, Thank you

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 5

                                XYZ Company
                                Project Statistics
Number of ongoing projects - 1
Number of completed projects - 0
Number of on-hold projects - 0
Number of available workers to assign - 36
```

```
*IDLE Shell 3.12.0*
File Edit Shell Debug Options Window Help

Number of ongoing projects - 1
Number of completed projects - 0
Number of on-hold projects - 0
Number of available workers to assign - 27

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 4

                                XYZ Company
                                Update Details on ongoing Projects
Project Code: 23
Enter the client's Name: disandu
Enter The Starting Date: 20223
Enter the ending date: 2024
Number of workers: 23
Project Status (ongoing, hold, or completed): hold
If you want to update the project details (yes/no)?yes

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 5

                                XYZ Company
                                Project Statistics
Number of ongoing projects - 0
Number of completed projects - 0
Number of on-hold projects - 1
Number of available workers to assign - 50
```

6.4.4 Screenshot of Test Case 04

```

                                Add a New Project
Enter the project code: 23
Enter the client's Name: Disandu
Enter The Starting Date: 2023
Enter the ending date: 2024
Number of workers: 14
Project Status (ongoing, hold, or completed): ongoing
If You Want to Update Details (yes/no)?yes

Project Details Updated, Thank you

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 5

                                XYZ Company
                                Project Statistics
Number of ongoing projects - 1
Number of completed projects - 0
Number of on-hold projects - 0
Number of available workers to assign - 36
```

```

                                XYZ Company
                                Remove Completed Project
Enter The Project code to remove: 23
If you want to remove project (yes/no)?yes
[23]
no of workers available before deleting project 36
[[23, 'Disandu', '2023', '2024', 14, 'ongoing']]

[]
[]
no of workers available after deleting project 50

1. Add a new project to existing projects.
2. Remove a completed project from existing projects.
3. Add new workers to the available workers group.
4. Update details on ongoing projects.
5. Project Statistics
6. Exit
Enter an option to continue: 5

                                XYZ Company
                                Project Statistics
Number of ongoing projects - 0
Number of completed projects - 1
Number of on-hold projects - 0
Number of available workers to assign - 50
```