

503_VRB_EDS_P1

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Essentials of Data Science

Practical No 1: (Graded Assignment)

The screenshot shows a Microsoft Visual Studio Code interface. The title bar says "PYTHON". The left sidebar shows files "Bank.py" and "EDS_T_1.py" (the current file). The right sidebar has various icons for code navigation and search. The main editor area contains the following Python code:

```
1 # Importing the csv file.
2 import csv
3
4 # Opening the .csv file in reading mode.
5 stud_Info=open(r"C:\\Users\\varun\\Videos\\Captures\\stud_info.csv","r")
6 placement=open(r"C:\\Users\\varun\\Videos\\Captures\\stud_placement.csv","r")
7 grades=open(r"C:\\Users\\varun\\Videos\\Captures\\student_marks.csv","r")
8
9 # Converting the .csv file format to the List format.
10 stud_data = list(csv.reader(stud_Info))
11 stud_placement=list(csv.reader(placement))
12 grade_data=list(csv.reader(grades))
13
14 # Combine all three csv files to s_d List
15 s_d=[]
16
17 for i in range(len(stud_data)):
18     s_d.append(stud_data[i]+stud_placement[i]+grade_data[i])
19
20 # Creating empty lists for different data items
```

The screenshot shows a Microsoft Visual Studio Code (VS Code) window with the following details:

- Title Bar:** The title bar displays the word "PYTHON" in a search bar.
- File Explorer:** On the left, there's a sidebar titled "EDS" containing file navigation: "EDS > EDS_T_1.py > average_place".
- Code Editor:** The main area contains Python code. The code starts with creating empty lists for various data items like name, dob, gender, company, job role, package, maths, physics, chemistry, total marks, and percentage. It then inputs values into these lists using a for loop. The code editor has syntax highlighting for Python, with variable names in blue and lists in yellow.
- Right Sidebar:** A vertical sidebar on the right contains several icons: a tree view, a search icon, a magnifying glass, a file icon, a user icon, and a gear icon.
- Bottom Status Bar:** The status bar at the bottom shows: "Screen Reader Optimized", "Ln 69, Col 1", "Spaces: 4", "UTF-8", "CRLF", "Python", "3.10.11 64-bit (microsoft store)", and two "Go Live" buttons.

```
19
20 # Creating empty lists for different data items
21 name = []
22 dob=[]
23 gender=[]
24 company=[]
25 job_role=[]
26 package=[]
27 maths=[]
28 physics=[]
29 chemistry=[]
30 total_marks=[]
31 percentage=[]
32
33 # Input the values in to the specified categories.
34 for i in range(1,len(s_d)):
35     name.append(s_d[i][1])
36     gender.append(s_d[i][2])
37     dob.append(s_d[i][3])
38     company.append(s_d[i][5])
```

The screenshot shows a Microsoft Visual Studio Code (VS Code) window with the following details:

- Title Bar:** The title bar displays the word "PYTHON" in the center. On the left are back and forward navigation icons, and on the right are standard window control buttons (minimize, maximize, close).
- File Explorer:** A sidebar on the left lists files: "Bank.py" and "EDS_T_1.py X".
- Search Bar:** A search bar at the top right contains the text " PYTHON".
- Code Editor:** The main area contains Python code. The code reads student data from a list named "s_d" and appends various fields to lists: name, gender, dob, company, job_role, package, maths, physics, chemistry, and percentage. It then prints each student's information along with their total marks.
- Right Sidebar:** A vertical sidebar on the right contains several icons representing different features: a tree view, a search icon, a magnifying glass, a file icon, a gear icon, and a user icon.
- Bottom Status Bar:** The status bar at the bottom provides information about the current file: "Screen Reader Optimized", "Ln 69, Col 1", "Spaces: 4", "UTF-8", "CRLF", "Python", "3.10.11 64-bit (microsoft store)", and two "Go Live" buttons.

```
33 # Input the values in to the specified categories.
34 for i in range(1,len(s_d)):
35     name.append(s_d[i][1])
36     gender.append(s_d[i][2])
37     dob.append(s_d[i][3])
38     company.append(s_d[i][5])
39     job_role.append(s_d[i][6])
40     package.append(s_d[i][7])
41
42     maths.append(s_d[i][9])
43     physics.append(s_d[i][10])
44     chemistry.append(s_d[i][11])
45     percentage.append(s_d[i][13])
46
47 # Printing the students and marks together.
48 def subject_total():
49     for i in range(len(s_d)):
50         print("<",i,>",s_d[i][1],"\t\t",s_d[i][9],"\t\t",s_d[i][10],"\t\t",s_d[i][11])
51     print("\n\n")
52
```

← → 🔍 PYTHON

Bank.py EDS_T_1.py ×

EDS > EDS_T_1.py > average_place

```
48 def subject_total():
49     for i in range(len(s_d)):
50         print("<",i,">",s_d[i][1],"\t\t",s_d[i][9],"\t\t",s_d[i][10],"\t\t",s_d[i][11])
51     print("\n\n")
52
53 # printing the percentage of the students.
54 def roll_total():
55     for i in range(1,len(s_d)):
56         percent=((int(s_d[i][9])+int(s_d[i][10])+int(s_d[i][11]))*0.33)
57         print("<",i,">",s_d[i][1],"\t\t",round(percent,2),"%")
58     print("\n\n")
59
60 # Students above the 80 percentage scored by the students.
61 def average_place():
62     print("<1>.Average Placement\n<2>.Average Marks (per Subject) ")
63     move1=int(input("Enter Choice :"))
64     if move1==1:
65         _sum=0
66         for i in range(1,len(s_d)):
67             x=(float(s_d[i][7]))
```

Screen Reader Optimized Ln 69, Col 1 Spaces: 4 UTF-8 CRLF {} Python 3.10.11 64-bit (microsoft store) ⚡ Go Live ⚡ Go Live

The screenshot shows a Microsoft Visual Studio Code (VS Code) window with the following details:

- Title Bar:** The title bar displays " PYTHON" in the center. On the left are back and forward navigation icons, and on the right are standard window control buttons (minimize, maximize, close).
- File Explorer:** On the left side, there is a sidebar titled "EDS" which lists files: "Bank.py" and "EDS_T_1.py".
- Code Editor:** The main area contains Python code. The code calculates the average placement and marks for three subjects (Maths, Physics, Chemistry). It includes a function "frontpage()".

```
for i in range(1,len(s_d)):
    x=(float(s_d[i][7]))
    _sum=_sum+x

print("Average Placement : Rs",round(_sum/10,2),"Lakhs")
elif move1==2:
    print("<1>.Maths\n<2>.physics\n<3>.Chemistry\n")
    move2=int(input("Enter Choice :"))
    if move2==1:
        print("Average Maths Marks Are :")
        y=9
    elif move2==2:
        print("Average Physics Marks Are :")
        y=10
    elif move2==3:
        print("Average Chemistry Marks Are :")
        y=11
    elif move2==str(move2):
        print("Please Enter choice in int")
        frontpage()
```
- Search Bar:** A search bar at the top right contains the text " PYTHON".
- Right Sidebar:** A vertical sidebar on the right contains various icons for file operations like copy, paste, and save, as well as other VS Code features.
- Bottom Status Bar:** The status bar at the bottom shows "Screen Reader Optimized" and "Ln 69, Col 1" along with other system information.

The screenshot shows a Microsoft Visual Studio Code (VS Code) window with the following details:

- Title Bar:** The title bar displays " PYTHON" in the center, with standard window control buttons (minimize, maximize, close) on the right.
- File Explorer:** On the left, there's a file tree showing "Bank.py" and "EDS_T_1.py" under the "EDS" folder.
- Code Editor:** The main area contains Python code for a placement system. The code includes functions for calculating average marks, finding placements by roll number, and summing subjects. It uses color-coded syntax highlighting for keywords, comments, and variables.
- Search Bar:** A search bar at the top right contains the text " PYTHON".
- Right Sidebar:** A vertical sidebar on the right contains various icons for navigating through files, switching between tabs, and managing the current file.
- Bottom Status Bar:** The status bar at the bottom provides information about the file: "Screen Reader Optimized", "Ln 69, Col 1", "Spaces: 4", "UTF-8", "CRLF", "Python", "3.10.11 64-bit (microsoft store)", and two "Go Live" buttons.

```
84     print("Please Enter choice in int")
85     frontpage()
86     _sum1=0
87     for i in range(1,len(s_d)):
88         r=(float(s_d[i][y]))
89         _sum1=_sum1+r
90     print(_sum1/10,"Marks")
91
92 # find the company placements by both name and roll no :
93 def placement_roll():
94     print("Enter (roll_no) to find the placement firm.")
95     move1=int(input("Enter Roll Number :"))
96     if move1>1 and move1<=10:
97         print("<",s_d[move1][1],">","\t", "{",s_d[move1][6],"}",s_d[move1][5],"With Package C")
98     print("\n\n\n")
99
100 def sum_sub():
101     for i in range(1,len(s_d)):
102         percent=((int(s_d[i][9])+int(s_d[i][10])+int(s_d[i][11]))))
103         print("<",i,">",s_d[i][1],"\t\t",round(percent,2),"Marks")
104         print("\n\n")
```

← → 🔍 PYTHON

Bank.py EDS_T_1.py ×

EDS > EDS_T_1.py > max_func

```
103     print("<", i, ">", s_d[i][1], "\t\t", round(percent, 2), "Marks")
104     print("\n\n")
105
106 def max_func():
107     print("<1>.Maximum Placement\n<2>.Minimum Placement\n<3>.Maximum Marks(M/P/C)\n<4>.Minimum Marks per subject")
108     move_4=int(input("Enter Choice :"))
109     if move_4==1: # maximum placement
110         e=package_.index(max(package_))+1
111         print("Name :",name[e-1],"->","Rs",max(package_),"lakhs")
112     elif move_4==2: # minimum placement
113         e=package_.index(min(package_))+1
114         print("Name :",name[e-1],"->","Rs",min(package_),"lakhs")
115     elif move_4==3: # maximum marks per subject
116         r=chemistry.index(max(chemistry))+1
117         print("Maximum Marks <Chemistry> :",max(chemistry),"Marks By",name[r-1])
118         s=maths.index(max(maths))+1
119         print("Maximum Marks <Maths> :",max(maths),"Marks By",name[s-1])
120         t=physics.index(max(physics))+1
121         print("Maximum Marks <Physics> :",max(physics),"Marks By",name[t-1])
122     elif move_4==4: # minimum marks per subject
```

Screen Reader Optimized Ln 128, Col 1 Spaces: 4 UTF-8 CRLF {} Python 3.10.11 64-bit (microsoft store) ⚡ Go Live ⚡ Go Live

Bank.py EDS T 1.py X

A screenshot of Microsoft Visual Studio Code (VS Code) interface. The title bar shows the word "PYTHON". The left sidebar has icons for file operations like Open, Save, and Close. The main editor area displays a Python script named "EDS_T_1.py". The code implements a menu system with the following logic:

```
EDS > EDS_T_1.py > average_place
138     <5> . Sum
139     <6> . Maximum / Minimum
140     <7> . Exit
141     ''')
142     choice1=int(input("Enter Choice : "))
143     if choice1==1:
144         subject_total()
145         frontpage()
146     elif choice1==2:
147         roll_total()
148         frontpage()
149     elif choice1==3:
150         placement_roll()
151         frontpage()
152     elif choice1==4:
153         average_place()
154         frontpage()
155     elif choice1==5:
156         sum_sub()
157         frontpage()
158     elif choice1==7:
159         exit()
```

The code uses standard Python syntax with indentation for readability. It includes imports for `input` and `exit`. The script handles user input for menu selection and calls various functions based on the choice.

The image shows a screenshot of a Python code editor interface. The top bar includes standard window controls (minimize, maximize, close) and a search bar labeled "PYTHON". The left sidebar lists open files: "Bank.py" and "EDS_T_1.py X". The main workspace displays the content of "EDS_T_1.py". The code is as follows:

```
147     roll_total()
148     frontpage()
149 elif choice1==3:
150     placement_roll()
151     frontpage()
152 elif choice1==4:
153     average_place()
154     frontpage()
155 elif choice1==5:
156     sum_sub()
157     frontpage()
158 elif choice1==7:
159     exit()
160 elif choice1==6:
161     max_func()
162     frontpage()
163
164 frontpage()
```

The right side of the interface features a vertical toolbar with various icons for navigation and file operations. The bottom status bar shows the file path "EDS > EDS_T_1.py > average_place", line number "Ln 69, Col 1", and other system details.

OUTPUT :

1. Subject Wise Marks for Every Student

2. Percentage(%)

Enter Choice : 2

| | |
|----------------|---------|
| < 1 > John | 51.48 % |
| < 2 > Mayur | 61.05 % |
| < 3 > Mangesh | 55.44 % |
| < 4 > Jessica | 72.27 % |
| < 5 > Jennifer | 76.56 % |
| < 6 > Ramesh | 73.92 % |
| < 7 > Suresh | 70.62 % |
| < 8 > Ganesh | 65.01 % |
| < 9 > Komal | 58.41 % |
| < 10 > Mayuri | 75.9 % |

3. Placement Details For (Input)* Roll No

Enter Choice : 3

Enter (roll_no) to find the placement firm.

Enter Roll Number :7

< Suresh > { Tester } TCS With Package Of 6.5 lakhs

4.Average

4.1Placement

Enter Choice : 4

<1>.Average Placement

<2>.Average Marks (per Subject)

Enter Choice :1

Average Placement : Rs 9.43 Lakhs

```
Enter Choice : 4
```

```
<1>.Average Placement
```

```
<2>.Average Marks (per Subject)
```

```
Enter Choice :2
```

```
<1>.Maths
```

```
<2>.physics
```

```
<3>.Chemistry
```

```
Enter Choice :
```

4.2Average Marks (Maths/Physics/Chemistry)

```
Enter Choice :1
```

```
Average Maths Marks Are :
```

```
62.4 Marks
```

```
Enter Choice :2
```

```
Average Physics Marks Are :
```

```
68.0 Marks
```

```
Enter Choice :3
```

```
Average Chemistry Marks Are :
```

```
69.8 Marks
```

5.Sum of All Subjects:

```
Enter Choice : 5
```

| | |
|----------------|-----------|
| < 1 > John | 156 Marks |
| < 2 > Mayur | 185 Marks |
| < 3 > Mangesh | 168 Marks |
| < 4 > Jessica | 219 Marks |
| < 5 > Jennifer | 232 Marks |
| < 6 > Ramesh | 224 Marks |
| < 7 > Suresh | 214 Marks |
| < 8 > Ganesh | 197 Marks |
| < 9 > Komal | 177 Marks |
| < 10 > Mayuri | 230 Marks |

6.Max/Mini

```
Enter Choice : 6
<1>.Maximum Placement
<2>.Minimum Placement
<3>.Maximum Marks(M/P/C)
<4>.Minimum Marks
```

```
Enter Choice :
```

6.1Maximum Placement:

```
Enter Choice :1
Name : Mangesh -> Rs 12.6 lakhs
```

6.2Minimum Placement:

```
Enter Choice :2
Name : Ganesh -> Rs 6.4 lakhs
```

6.3Maximum Marks Per Subject

```
Enter Choice :3
Maximum Marks <Chemistry> : 89 Marks By Mangesh
Maximum Marks <Maths> : 89 Marks By Mayuri
Maximum Marks <Physics> : 96 Marks By Jennifer
```

6.4Minimum Marks Per Subject

```
Enter Choice :4
Minimum Marks <Chemistry> : 54 Marks By Mayuri
Minimum Marks <Maths> : 25 Marks By Mangesh
Minimum Marks <Physics> : 45 Marks By John
```


