Mallika Prasad   IBMI9CS081   Sec-B.
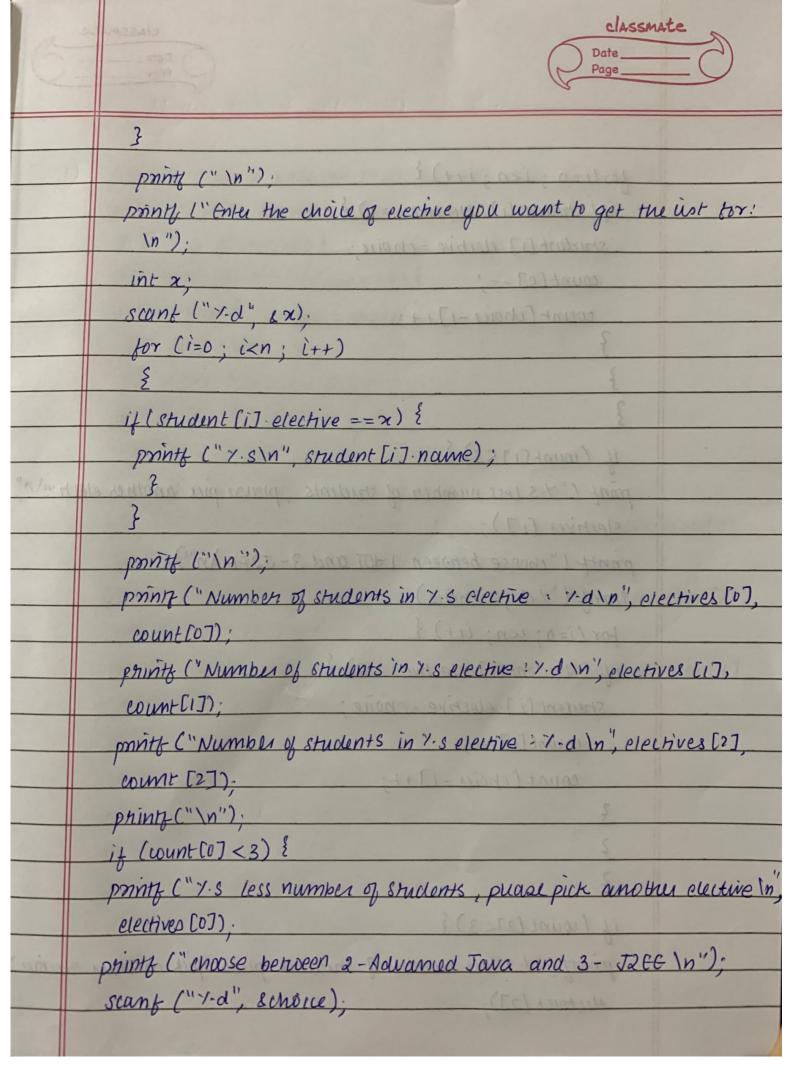
1) Write a C program to count the number of students registered for 3 elective courses. Accept the names of n students, their choice of the elective (courses - Internet of things, IOT, Advanced Java and J2EE and Advanced Data structures.)
Include following questions:
   i) Accept say x from the user. Display the names of the students who have opted for elective x.
   ii) Count and display the total no. of students present in each elective.
   iii) If count is less than 30, inform that the course will not be floated and ask the students who've opted for the course to reselect their electives from the other 2. Count and display the counts again.
   iv) Display the name of the students in each elective.

```
#include <stdio.h>
#include <stdlib.h>
struct student {
char name[40];
int elective;
};
int main()
{
int i, j, choice, n;
```

```c
int count [3] = {0,0,0};
char electives [3][40] = {"IOT", "Advanced Java", "J2EE"};
printf ("Enter number of students : ");
scanf ("%d", &n);
smuct student student [n];
for (i=0; i<3; i++)
{
    printf ("\n%d - %s", i+1, electives [i]);
}

for (i=0; i<n; i++)
{
    printf ("\n Enter the number of student : ");
    scanf ("%s", studen[i].name);
    printf ("\n Enter the choice : ");
    scanf ("%d", &student [i].elective);
}

for (i=0; i<n; i++) {
    if (student [i]. elective == 1) {
        count[0]++; }
    else if (student [i]. elective == 2) {
        count [1] ++; }
    else {
        count [2] ++;
    }
}
```

```
}

printf (" \n");
printf ("Enter the choice of elective you want to get the list for:
\n");

int x;
scanf ("%d", &x);
for (i=0; i<n; i++)
{
if (student [i]. elective ==x) {
printf ("%.s\n", student [i]. name);
}
}

printf ("\n");
printf ("Number of students in %.s elective : %.d\n", electives [0],
count [0]);
printf ("Number of students in %.s elective : %.d\n", electives [1],
count [1]);
printf ("Number of students in %.s elective : %.d \n", electives [2],
count [2]);
printf ("\n");
if (count [0] < 3) {
printf ("%.s less number of students, please pick another elective \n",
electives [0]);
printf ("choose between 2-Advanced Java and 3- J2EE \n");
scanf ("%.d", &choice);
```

```
for(i=0; i<n; i++) {
    if(student[i].elective == 1) {
        student[i].elective = choice;
        count[0]--;
        count[choice-1]++;
    }
}

if (count[1]<3) {
    printf("Y.s less number of students, please pick another elective\n");
    electives[1];
    printf("choose between 1-IOT and 3-J2EE \n");
    scanf("%d", &choice);
    for (i=0; i<n; i++) {
        if (student[i].elective == 2) {
            student[i].elective = choice;
            count[1]--;
            count[choice-1]++;
        }
    }
}

if (count[2]<3) {
    printf("Y.s less number of students, please pick another elective \n");
    electives[2];
```

```c
printf ("choose between 1- IOT and Advanced Java \n");   2-
scanf ("%d", &choice);
  for (i=0; i<n; i++) {
  if (student [i].elective ==3) {
  student [i].elective = choice;
  count[2] --;
  count [choice -1]++;
  }
 }
 }

 printf ("Number of students in %s elective : %d \n ", electives [0],
  count [0]);
 printf ("Number of students in %s elective : %d \n", electives [1],
  count[1]);
 printf ("Number of students in %s elective : %d \n", electives [2],
 count [2]);

 printf ("\n");
 for (i=0; i<3; i++) {
 printf ("\n Students in %s : \n", electives [i]);
 for (j=0; j<n; j++) {
 if (student [j].elective == (i+1) {
 printf (" %s \n", student[j].name);
 }
 }
 }
 return 0;
 }
```