20BCS042 MOHD ADIL

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#include <stdio.h>
#include <stdlib.h>

int st;
int percentage(int i, int arr[i][5])
{
   int percentage = (arr[i][2] + arr[i][3] + arr[i][4]) / 3;
   return percentage;
}
int maxins1(int arr[st][5])
{
   int maxs1 = 0;
   for (int i = 0; i < st; i++)
   {
      if (arr[i][2] > maxs1)
      {
         maxs1 = arr[i][2];
      }
   }
   return maxs1;
}
int maxins2(int arr[st][5])
{
   int maxs2 = 0;
   for (int i = 0; i < st; i++)
   {
      if (arr[i][3] > maxs2)
      {
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            maxs2 = arr[i][3];
        }
    }
    return maxs2;
}
int maxins3(int arr[st][5])
{
    int maxs3 = 0;
    for (int i = 0; i < st; i++)
    {
        if (arr[i][4] > maxs3)
        {
            maxs3 = arr[i][4];
        }
    }
    return maxs3;
}
int main()
{

    printf("Enter the Number of students: ");
    scanf("%d", &st);
    int arr[st][5];
    for (int i = 0; i < st; i++)
    {
        printf("Enter the roll number age and marks in Subject1 Subject2 and Subject3 of stude
nt %d\n", i + 1);
        for (int j = 0; j < 5; j++)
        {
            scanf("%d", &arr[i][j]);
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    }
}
for (int i = 0; i < st; i++)
{

    for (int j = 0; j < 5; j++)
    {
        printf("%d ", arr[i][j]);
    }
    printf("\n");
}

while (1)
{
    int ch;
    printf("Enter 1 to display percentage secured by each student\n");
    printf("Enter 2 to display highest marks in each subject\n");
    printf("Enter 3 to display the student who secured highest percentage\n");
    printf("Enter 4 to exit\n");
    printf("Enter your Choice: ");
    scanf("%d", &ch);
    switch (ch)
    {
    case 1:
        printf("Case 1\n");
        printf("Percentage of Each student\n");
        for (int i = 0; i < st; i++)
        {
            printf("Roll Number:%d secured %d%c\n", arr[i][0], percentage(i, arr), 37);
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        }
        break;
    case 2:
        printf("Case 2\n");
        printf("Highest Marks in Each Subject\n");
        printf("Subject1: %d\n", maxins1(arr));
        printf("Subject2: %d\n", maxins2(arr));
        printf("Subject3: %d\n", maxins3(arr));

        break;
    case 3:
        printf("Case 3\n");
        int mp = 0;
        int t = 0;
        for (int i = 0; i < st; i++)
        {
            if (percentage(i, arr) > mp)
            {
                mp = percentage(i, arr);
                t = arr[i][0];
            }
        }
        printf("Maximum percentage is %d and secured by roll number %d\n", mp, t);
        break;
    case 4:
        printf("Exiting\n");
        exit(0);
    }
}
```

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    return 0;
}
```

OUTPUT

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PS C:\Users\aadil\Desktop\CSE\lab> cd "c:\Users\aadil\Desktop\CSE\lab\" ; if ($?) { gcc program4.c -o program4 } ; if ($?) { .\program4 }
Enter the Number of students: 3
Enter the roll number age and marks in Subject1 Subject2 and Subject3 of student 1
1 20 92 82 86
Enter the roll number age and marks in Subject1 Subject2 and Subject3 of student 2
2 19 88 93 97
Enter the roll number age and marks in Subject1 Subject2 and Subject3 of student 3
3 21 96 89 94
1 20 92 82 86
2 19 88 93 97
3 21 96 89 94
Enter 1 to display percentage secured by each student
Enter 2 to display highest marks in each subject
Enter 3 to display the student who secured highest percentage
Enter 4 to exit
Enter your Choice: 1
Case 1
Percentage of Each student
Roll Number:1 secured 86%
Roll Number:2 secured 92%
Roll Number:3 secured 93%
Enter 1 to display percentage secured by each student
Enter 2 to display highest marks in each subject
Enter 3 to display the student who secured highest percentage
Enter 4 to exit
Enter your Choice: 2
Case 2
Highest Marks in Each Subject
Subject1: 96
Subject2: 93
Subject3: 97
Enter 1 to display percentage secured by each student
Enter 2 to display highest marks in each subject
Enter 3 to display the student who secured highest percentage
Enter 4 to exit
Enter your Choice: 3
Case 3
Maximum percentage is 93 and secured by roll number 3
Enter 1 to display percentage secured by each student
Enter 2 to display highest marks in each subject
Enter 3 to display the student who secured highest percentage
Enter 4 to exit
Enter your Choice: 4
Exiting
PS C:\Users\aadil\Desktop\CSE\lab>
```