

class Rows {

 public static void main (String Args[]) {

 int a[][] = new int[4][];

 a[0] = new int[1];

 a[1] = new int[2];

 a[2] = new int[3];

 a[3] = new int[4];

 int i, j, k=1;

 for(i=0; i<4; i++)

 for(j=0; j<i+1; j++) {

 a[i][j] = k;

 k++;

 }

 }

 System.out.println(a[i][j]);

 System.out.println();

}

}

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LAB week 2:

Q4

```
import java.util.Scanner;  
class Main {  
    public static void main(String args[]) {  
        int n, i = 0;  
        Scanner in = new Scanner(System.in);  
        System.out.println("Enter no. of subjects");  
        n = in.nextInt();  
        while (i < n) {  
            float marks_cie, marks_see;  
            double total = 0;  
            Scanner m = new Scanner(System.in);  
            System.out.println("Enter CIE marks out of 50");  
            marks_cie = m.nextInt();  
            System.out.println("Enter SEE marks");  
            marks_see = m.nextInt();  
            total = marks_cie + (marks_see / 2);  
            System.out.println("Final marks = " + total);  
            if (total >= 80) {  
                System.out.println("Grade = A");  
            }  
            if (total >= 60 && total < 80) {  
                System.out.println("Grade = B");  
            }  
            if (total >= 40 && total < 60) {  
                System.out.println("Grade = C");  
            }  
        }  
    }  
}
```

```
if (total >= 30 && total < 40) {  
    System.out.println("grade = D");  
}
```

```
else {
```

```
    System.out.println("FAIL");  
}
```

```
}
```

```
} // end of for loop
```

```
2
```

```
{System.out.println("Grade = " + grade);  
}
```

```
for (int i = 1; i <= 10; i++) {  
    System.out.println("Grade = " + grade);  
}
```

```
} // end of for loop
```

```
System.out.println("Grade = " + grade);  
}
```

```
} // end of for loop
```

```
System.out.println("Grade = " + grade);  
}
```

```
} // end of for loop
```

```
System.out.println("Grade = " + grade);  
}
```

```
} // end of for loop
```

```
System.out.println("Grade = " + grade);  
}
```

```
} // end of for loop
```

```
System.out.println("Grade = " + grade);  
}
```

```
} // end of for loop
```

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LAB week 2

Q5

```
import java.util.Scanner;  
class Prime {  
    public static void main (String Args[]) {  
        int n1, n2, i=0;  
        int flag; }
```

Scanner m = new Scanner(System.in);

System.out.println("Enter first number\n");
n1 = m.nextInt();

System.out.println("Enter Second number\n");
n2 = m.nextInt();

while (n1 < n2) {

flag = 0;

for (i=2; i<=n1/2; i++) {

if (n1 % i == 0) {

flag = 1;

break;

}

if (flag == 0)

System.out.println(" "+n1);

n1++;

}

}

```
#include <stdio.h>
#include <math.h>
void cylinder();
void cone();
void Sphere();
void cylinder()
{
    float a,v,r,h;
    printf("Enter radius and height\n");
    scanf("%f %f", &r, &h);
    a = (2 * 3.14 * r * h) + (2 * 3.14 * r * r);
    v = (3.14 * r * r * h);
    printf("Area=%f and Volume=%f", a, v);
}
void cone()
{
    float r,v,a,h,q;
    printf("Enter radius and height\n");
    scanf("%f %f", &r, &h);
    q = sqrt((h * h) + (r * r));
    a = (3.14 * r * r * (r + q));
    v = (3.14 * r * r * h / 3.0);
    printf("Area=%f and Volume=%f", a, v);
}
```

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Lab week 2

```
void Sphere {  
    float a, r, V;  
    printf("Enter radius\n");  
    scanf("%f", &r);  
    a = 4 * 3.14 * r * r;  
    V = (4.0 / 3.0) * 3.14 * r * r * r;  
    printf("the area = %f and volume = %f\n", a, V);  
}  
  
int main () {  
    int v;  
    do {  
        printf("Enter your choice\n");  
        printf("1. Cylinder 2. Cone 3. Sphere\n");  
        scanf("%d", &v);  
        switch(v) {  
            case 1:  
                cylinder();  
                break;  
            case 2:  
                cone();  
                break;  
            case 3:  
                sphere();  
                break;  
            default:  
                printf("wrong input, try again!\n");  
        }  
    } while(v != 3);  
}
```

```

#include <stdio.h>
#include <math.h>
int main() {
    char name[5][20];
    int elective[20];
    int i, j, x, ct1, ct2, ct3;
    ct1 = ct2 = ct3 = 0;
    for(i=0; i<5; i++) {
        printf("Enter name of student %d\n", i+1);
        scanf("%s", name[i]);
        printf("CHOOSE 1 choice of ELECTIVES\n");
        printf("1. Internet of Things\n");
        printf("2. Advanced Java and J2EE\n");
        printf("3. Advanced Data structures\n");
        printf("Enter your choice\n");
        scanf("%d", &elective[i]);
        printf("CHOOSE 1 choice of electives\n");
        printf("1. Internet of Things\n");
        printf("2. Advanced Java and J2EE\n");
        printf("3. Advanced Data structures\n");
        printf("Enter elective for which you want to display the std\n");
        for(j=0; j<5; j++) {
            if(elective[j]==x) {
                printf("Name: %d: %s, %d, %s", j+1, name[j])
            }
        }
    }
}
    
```

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Lab work 2.

```
for(i=0; i<5; i++) {
```

```
    if (elective[i] == 1)
```

```
        ctr1++;
```

```
    else if (elective[i] == 2)
```

```
        ctr2++;
```

```
    else
```

```
        ctr3++;
```

```
printf("The number of student in elective 1: %d", ctr1);
```

```
printf("The number of student elective 2: %d", ctr2);
```

```
printf("The number of student elective 3: %d", ctr3);
```

```
if (ctr1 < 2) {
```

```
    printf("The course has been floated!\n");
```

```
for (i=0; i<5; i++) {
```

```
    if (elective[i] == 1) {
```

```
        printf("2. Advanced Java & J2EE\n");
```

```
    printf("3. Advanced Data Structure\n");
```

```
    printf("Enter your choice\n");
```

```
scanf("%d", &elective[i]);
```

```
} } }
```

```
else if (ctr2 < 2) {
```

```
    printf("Course has been floated!\n");
```

```
for (i=0; i<5; i++) {
```

```
    if (elective[i] == 2) {
```

```
        printf("1. Internet of things\n");
```

```
        printf("3. Advanced Data Structure\n");
```

```

printf(" Enter Your choice \n");
scanf("%d", &elective[i]);
}
else {
    printf("Course 3 floaters\n");
    for (i=0; i<5; i++) {
        if (elective[i]==3) {
            printf("1. Internet of things \n");
            printf("2. Advanced Java and J2EE \n");
            printf(" Enter Your choice \n");
            scanf("%d", &elective[i]);
        }
        ctr1=ctr2=ctr3=0
        for (i=0; i<5; i++) {
            if (elective[i]==1)
                ctr1++;
            else if (elective[i]==2)
                ctr2++;
            else
                ctr3++;
        }
        printf("The number of student in Elective 1 are: %d", ctr1);
        printf("The number of student in Elective 2 are: %d", ctr2);
        printf("The number of student in Elective 3 are %d", ctr3);
        if (ctr1!=0)
            printf("The student in Elective 1");
        for (i=0; i<5; i++)
    }
}

```

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Lab week 2

if (elective[i] == 1){
 printf("Name %d : %s\n", i+1, name[i]);
}

if (ctr2 == 0){
 printf("Student in Elective 2 in ");
 for(i=0; i<5; i++){
 if (elective[i] == 2){
 printf("Name %d : %s\n", i+1, name[i]);
 }
 }
}

if (ctr3 == 0){
 printf("The student in Elective 3 ");
 for(i=0; i<5; i++){
 if (elective[i] == 3){
 printf("Name %d : %s\n", i+1, name[i]);
 }
 }
}

return 0;

}

/* End of main function */

/* Function to calculate average marks of student in each elective */

float average_marks(int marks[5], int elective[5], int n){

float sum = 0.0, avg; int count = 0;

for(int i = 0; i < n; i++){

if (elective[i] != 0){

sum += marks[i];

count++;