

## WEEK - 2

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8. Write a C / Java program to accept a number  $n$  from the user and print  $n$  rows of output as given below if  $n=4$ .

1			
2	3		
4	5	6	
7	8	9	10

```
#include <stdio.h>
void main()
{
    int i, j, c=1, n;
    printf ("Enter the value of n");
    scanf ("%d", &n);
    for (i=1; i<=n; i++)
    {
        for (j=1; j<=i; j++)
        {
            printf ("%d\t", c);
            c++;
        }
        printf ("\n");
    }
}
```

4. Write a C/Java program to accept CIE marks (out of 50) and SEE marks (out of 100) of a student and print his/her grade. Use if...else if ladder.

#include <stdio.h>

void main()

{

int internal\_marks, external\_marks,

x, total\_marks;

printf ("Enter the CIE and SEE  
marks respectively\n");

scanf ("%d %d", &internal\_marks,  
&external\_marks);

x = (external\_marks / 2);

total\_marks = internal\_marks + x;

if (total\_marks < 90 && total\_marks >= 70)

{

printf ("Grade is S");

}

else if (total\_marks < 70 && total\_marks >= 50)

:

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```
printf ("Grade is A");
```

{

```
else if (totalmarks < 80 && totalmarks >= 70)
```

{

```
printf ("Grade is B");
```

```
else if (totalmarks < 70 && totalmarks >= 60)
```

{

```
printf ("Grade is C");
```

{

```
else if (totalmarks < 60 && totalmarks >= 0)
```

{

```
printf ("Grade is D");
```

{

```
else
```

{

```
printf ("Grade is F");
```

{

{

5

Write a C/Java program to print the prime numbers between given two integers (inclusive). Accept these two integers from the user.

```
# include <stdio.h>
```

```
void main()
```

```
int x, y, i, j, c = 0;
```

```
printf("Enter the starting value");
```

```
scanf("%d", &x);
```

```
printf("Enter the ending value");
```

```
scanf("%d", &y);
```

```
for (i=x; i<=y, i++)
```

```
{ for (j=1; j<=i, j++)
```

```
{ if (i%j == 0)
```

```
c++;
```

```
}
```

```
y
```

```
if (c == 2)
```

```
{
```

Printf ("0/o d\n", i);

y

c = 0;

y

y

6:

Write a C / Java program which prints the area and volume of any one of the given shapes given below. Accept the choice of the shape, appropriate inputs from the user, calculate and display the area and the volume of the same. Repeat this with different shapes till the user wishes to stop.

Cylinder: Area:  $A = 2\pi r h + 2\pi r^2$

Volume:  $V = \pi r^2 h$

Cone: Area:  $\pi r s (r + \sqrt{h^2 + r^2})$

Volume:  $\pi r^2 h / 3$

Sphere: Area:  $4\pi r^2$

: Volume:  $4/3 \pi r^3$

```

#include <stdio.h>
#include <math.h>
void main()
{
    float r, h, area, volume;
    int opt;
    char ch;
    const float pi = 3.14;
    do {
        printf("For which shape you want to
               calculate Area and Volume? (n)");
        printf("\n Options: \n 1-Cylinder\n 2-cone
               \n 3-sphere\n");
        scanf("%d", &opt);
        switch(opt) {
            case 1:
                printf("\nEnter the radius of cylinder:");
                scanf("%f", &r);
                printf("\nEnter the height of cylinder:");
                scanf("%f", &h);
                area = (2 * pi * r * h) + (2 * pi * r * r);
                volume = pi * r * r * h;
                printf("\n Area: %f", area);
                printf("\n volume: %f", volume);
        }
    } while(ch != 'q');
}

```

break;

Case 2:

printf("In Enter the radius of cone:");

scanf ("%f", &r);

printf("In Enter the height of cone:");

scanf ("%f", &h);

area = pi \* r \* (r + sqrt((h\*h+r\*r)));

volume = pi \* r \* r \* (h/3);

printf("In Area: %f", area);

printf("In Volume: %f", volume);

break;

Case 3:

printf("In Enter the radius of sphere:");

scanf ("%f", &r);

area = 4 \* pi \* r \* r;

volume = (4/3) \* pi \* r \* r \* r;

printf("In Area: %f", area);

printf("In Volume: %f", volume);

break;

printf("In If you want to repeat Again");

scanf ("%s", &ch);

while (ch == 'y' || ch == 'Y');

y

7) Write a program to count the no. of students registered for three elective courses. Accept the name of n students, their choice of the elective (say, the electives courses offered are Internat of things, Advanced Java and J2EE and advanced data structures). Include the following operations:

1. Accept say x from the user. Display the names of the students who have opted for elective x.
2. Count and display the no. of student present in each elective.
3. If count is less than 30, inform that courses will not be floated and ask the students who have opted the course to reselect their electives from the other two. Count and display the counts again.
4. Display the name of the students in each elective.

```
#include <stdio.h>
#include <string.h>
struct getname {
    char name[10];
    int age;
};

int main() {
    struct getname arr[100];
    int n;
    int a[100];
    int count1 = 0;
    int count2 = 0;
    int count3 = 0;
    printf("Select the courses elective\n");
    printf("1. Internet of things\n");
    printf("2. Advanced Java\n");
    printf("3. Advanced Data Structures\n");
    int num;
    printf("Enter the no. of students:");
    scanf("%d", &num);
    for (i = 0; i < num; i++) {
        printf("Enter Student's name:");
    }
}
```

```

scanf("%s", &arr[i].name);
printf("Enter choice : ");
scanf("%d", &n);
a[i] = n;
if (a[i] == 1)
{
    count1++;
}
else if (a[i] == 2)
{
    count2++;
}
else if (a[i] == 3)
{
    count3++;
}
printf("operation 1\n");
int x;
printf("Enter the electric for
which you want the list : ");
scanf("%d", &x);
for (int i = 0; i < num; i++)
{
    if (a[i] == x)
    {
        printf("%s", arr[i].name);
    }
}

```

```
printf(">0/05\n", arr[i].name);  
y  
y  
y  
y (count1 < 30)  
y  
count1 = 0;
```

printf("All students who opted  
for elective course 1 are  
required to choose different  
elective course. \n"),

```
for (int i = 0; i < num; i++) {  
    if (a[i] == 1)  
    {
```

printf("%05 select elective course  
or 3.", arr[i].name),  
scanf("%d", &n),  
a[n] = n,  
if (n == 2)

```
    count2++;  
else if (n == 3),
```

```
y count3++;
```

```
y  
y  
y
```

if (count2 < 30)

{  
    count2 = 0;

    printf ("0%S select elective course 1

or 3: " arr[i].name);

    scanf ("%0d", -

for

    printf (" all students who opted for  
elective course 2 are required to  
choose different elective course (n);

    for (int i=0; i<num; i++)

{  
    if (a[i] == 2)

}

    printf ("Select from elective course 1  
or 3: " arr[i].name);

    scanf ("%0d", &n);

    a[i] = n;

    if (n == 1)

        count1++;

    else if (n == 3)

        count3++;

    if

    if

    if

Y (count 3 < 30)

count 3 = 0;

printf ("All students who opted  
your elective course 3 are required  
to choose different elective course.\n");

for (int i = 0; i < num; i++)

{  
if (a[i] == 3)

printf ("%s select from elective  
course 1 or 2.", arr[i].name);

scanf ("%d", &n);

a[i] = n;

if (n == 1)

count1++;

else if (n == 2)

count2++;

}

}

printf ("Operation 3\n");

printf ("No. of students who  
opted for elective course one:

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"/%d", count1);  
printf("No. of students who opted for  
elective course two: %d", count2);  
printf("No. of students who opted for  
elective course three: %d", count3);  
  
printf("operations 4 in");  
printf("list of students in elective course 1:  
\n");  
for (int i=0; i < num; i++)  
{  
 if (a[i] == 1)  
 {  
 printf("%s\n", arr[i].name);  
 }  
}  
printf("list of students in elective  
course 2: \n");  
for (int i=0; i < num; i++)  
{  
 if (a[i] == 2)  
 {  
 printf("%s\n", arr[i].name);  
 }  
}

Point of ("List of student in elective  
course 3: \n")  
for (int i=0; i<n; i++)  
{  
 cout << ac[i] << endl;

point of ("%s\n", arr[i].name);  
}  
}

(considered "a/2010" string

and no attribute p+ii) + trying

"%s" string

(no memory leak + no error)

(now figure out 2010 database)