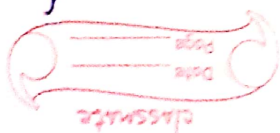


Week 2 programs:-

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

```
4) #include <stdio.h>
int main()
{
    float cie_marks[5], see_marks[5], final_marks = 0;
    int i;
    printf("Enter the CIE marks out of 50: \n");
    for (i = 0; i < 5; i++)
    {
        printf("Subject %d: ", i+1);
        scanf("%f", &cie_marks[i]);
    }

    printf("Enter the SEE marks out of 100: \n");
    for (i = 0; i < 5; i++)
    {
        printf("Subject %d: ", i+1);
        scanf("%f", &see_marks[i]);
    }
}
```



```
for(i=0; i<5; i++)  
{  
    final_marks += cie_marks[i] + (see_marks[i]/5);  
}
```

```
final_marks = final_marks / 5;
```

```
if (final_marks >= 90)
```

```
    printf("In The final grade is: S");
```

```
else if (final_marks >= 80)
```

```
    printf("In The final grade is: A");
```

```
else if (final_marks >= 70)
```

```
    printf("In The final grade is: B");
```

```
else if (final_marks >= 60)
```

```
    printf("In The final grade is: C");
```

```
else if (final_marks >= 50)
```

```
    printf("In The final grade is: D");
```

```
else if (final_marks >= 40)
```

```
    printf("In The final grade is: E");
```

```
else
```

```
    printf("In The final grade is: F");
```

```
return 0;
```

```
}
```

5) #include <stdio.h>

int main()

{

int i, j, n, m, flag;

printf("Enter the starting number: ");

scanf("%d", &m);

printf("Enter the ending number: ");

scanf("%d", &n);

for(i=m; i<=n; i++)

{

flag = 0;

for(j=2; j<=(i/2); j++)

{

if(i%j==0)

{

flag = 1;

break;

}

}

if(flag==0)

printf("%d ", i);

}

return 0;

}

6) #include <stdio.h>

#include <math.h>

int main()

{

int op, i, j;

float area, volume, r, h;

while(1)

{

printf("In Calculation of Area and volume: ");

```
2 printf("\nEnter '1' for cylinder \n Enter '2' for cone \n Enter '3' -  
- for sphere \n Enter '0' to EXIT");
```

```
printf("\n Enter your response: ");
```

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

```
if (op == 0)
```

```
{
```

```
break;
```

```
}
```

```
else if (op > 3)
```

```
{
```

```
printf("Enter a valid response ");
```

```
continue;
```

```
}
```

```
printf("\n Enter the radius: ");
```

```
scanf("%f", &r);
```

```
printf("\n Enter the height: ");
```

```
scanf("%f", &h);
```

```
switch (op)
```

```
{
```

```
case 1:
```

```
area = (2 * 3.14 * r * h) + (2 * 3.14 * r * r);
```

```
volume = (3.14 * r * r * h);
```

```
break;
```

```
case 2:
```

```
area = (3.14 * r * (r + sqrt(h * h + r * r)));
```

```
volume = (3.14 * r * r * h) / 3;
```

```
break;
```

```
case 3:
```

```
area = (4 * 3.14 * r * r);
```

```
volume = (4 * 3.14 * r * r * r) / 3;
```

```
break;
```

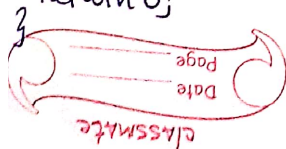
```
}
```

```
printf("\n The AREA Area is %f \n The VOLUME is %f", area, volume);
```

```
}
```

```
return 0;
```

```
}
```



7) #include <stdio.h>

struct students_electives {

char name[10];

int elect;

};

struct students_electives elec1[10];

struct students_electives elec2[10];

struct students_electives elec3[10];

int i=0, j=0, k=0;

void display()
{

int a, b;

if (i>0)
{

printf("\n The list of students opted for Internet of Things: \n");

printf("Number of student: %d \n", i);

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

{

printf("\n %s", elec1[a].name);

}

}

if (j>0)

{

printf("\n The list of students opted for Advanced Java -
- and J2EE: \n");

printf("Number of student: %d \n", j);

for (a=0; a<=j; a++)

{

printf("\n %s", elec2[a].name);

}

}

```
if (k > 0)
{
```

```
    printf("\n The list of students opted for Advanced Data  
    structure: \n");
```

```
    printf("Number of students: %d \n", k);
```

```
    for(a = 0; a <= k; a++)
```

```
    {
```

```
        printf("\n %s", elec3[a].name);
```

```
    }
```

```
}
```

```
void selection(int option)
```

```
{
```

```
    int op, a, n;
```

```
    n = option;
```

```
    printf("The following are the electines that can be chosen: \n");
```

```
    if (option == 1)
```

```
    {
```

```
        printf("2: Advanced Java and J2EE \n 3: Advanced Data Structures \n");
```

```
        n = i;
```

```
    }
```

```
    else if (option == 2)
```

```
    {
```

```
        printf("1: Internet of things \n 3: Advanced Data Structures \n");
```

```
        n = j;
```

```
    }
```

```
    else if (option == 3)
```

```
    {
```

```
        printf("1: Inter of things \n 2: Advanced Java and J2EE \n");
```

```
        n = k;
```

```
    }
```

```
    else
```

```
    {
```

```
        printf("1: Internet of things \n 2: Advanced Java and J2EE  
        \n 3: Advanced Data structures \n");
```

```
    }
```

```
for (a=0; a<n; a++)
```

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

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

```
switch(op).
```

```
{
```

```
case 1: printf("Enter your name: ");
```

```
scanf("%s", &elec[i].name);
```

```
elec[i].elec=1;
```

```
i++;
```

```
break;
```

```
case 2: printf("Enter your name: ");
```

```
scanf("%s", &elec[j].name);
```

```
elec[j].elec=2;
```

```
j++;
```

```
break;
```

```
case 3: printf("Enter your name: ");
```

```
scanf("%s", &elec[k].name);
```

```
elec[k].elec=3;
```

```
break, k++;
```

```
break;
```

```
default: printf("\n Enter a valid input\n");
```

```
break;
```

```
}
```

```
}
```

```
}
```

```
int main()
```

```
{
```

```
int flag=0;
```

```
selections(10);
```

```
display();
```

```
if (i<3)
```

```
{
```

```
flag=1
```



```
printf("In The no. of students in IOT are less hence those  
students need to reselect their elective\n");
```

```
selection(1);
```

```
i = -1;
```

```
}
```

```
else if (j < 3)
```

```
{
```

```
flag = 1;
```

```
printf("In The no. of students in Advanced Java and J2EE  
are less hence those students need to reselect their elective\n");
```

```
selection(2);
```

```
j = -1;
```

```
}
```

```
else if (k < 3)
```

```
{
```

```
flag = 1;
```

```
printf("In The no. of students in Advanced Data Structure are  
less hence those students need to reselect their elective\n");
```

```
selection(3);
```

```
k = -1;
```

```
}
```

```
if (flag == 1)
```

```
{
```

```
display();
```

```
}
```

```
return 0;
```

```
}
```