WEEK 2:

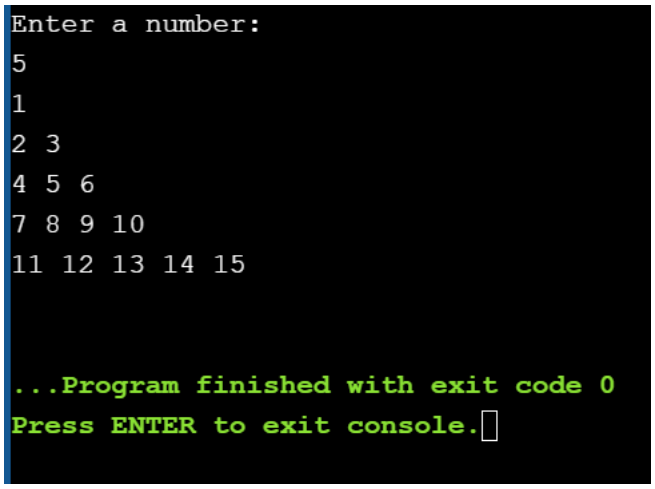
Q3:

Code

```
#include <stdio.h>


int main()
{
	int i,j,n,num=1;
	printf("Enter a number:\n");
	scanf("%d",&n);
	for(i=1;i<=n;i++)
	{
		for(j=1;j<=i;j++)
		{
			printf("%d ",num);
			num++;
		}
		printf("\n");
	}
}
```

OUTPUT:



Q4:

Code

```
#include <stdio.h>

char grade (int total)

{


    if (total >= 90)

        return 'S';

    else if (total >= 75)

        return 'A';

    else if (total >= 60)

        return 'B';

    else if (total >= 50)

        return 'C';

    else if (total >= 40)

        return 'D';

    else

        return 'F';
```

```
}


int main ()
{
    int csub[4],ssub[4],total=0,i,temp;
for(i=0;i<4;i++)
{
    printf ("Enter CIE and SEE marks of subject %d:\n",i+1);
    scanf ("%d%d", &csub[i], &ssub[i]);
}
for(i=0;i<4;i++)
{
temp=csub[i]+ssub[i]/2;
total=total+temp;
    printf("Grade of subject %d: %c\n",i, grade (temp));
    printf("Overall grade: %c\n", grade(total));
}
}
```

OUTPUT:

```
Enter CIE and SEE marks of subject 1:
49
90
Enter CIE and SEE marks of subject 2:
21
68
Enter CIE and SEE marks of subject 3:
38
85
Enter CIE and SEE marks of subject 4:
23
56
Grade of subject 0: S
Overall grade: S
Grade of subject 1: C
Overall grade: S
Grade of subject 2: A
Overall grade: S
Grade of subject 3: C
Overall grade: S
```

Q5:

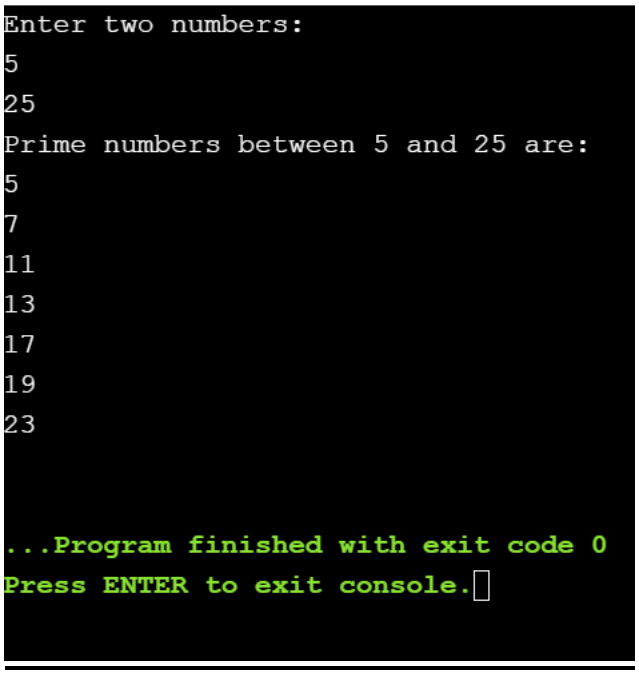
CODE

```
#include <stdio.h>


int main()
{
    int i,n1,n2,j,flag=0;
    printf("Enter two numbers:\n");
    scanf("%d%d",&n1,&n2);
    printf("Prime numbers between %d and %d are:\n",n1,n2);
    for(i=n1;i<=n2;i++)
```

```
    {
        for(j=2;j<=i/2;j++)
        {
                if(i%j==0)flag=1;
        }
        if(flag==0)printf("%d \n",i);
        flag=0;
    }
}
```

OUTPUT



Q6:

code

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

```
int main()
{
	int r,h,c,m=1;
	float a,v,pi=3.14;
	while(m==1)
	{
	printf("----------------------------------------\n");
	printf("PRESS\n1)Sphere\n2)Cone\n3)Cylinder\n4)Exit\n");
	scanf("%d",&c);
	switch(c)
	{

		case 1: printf("SPHERE:\n");
				printf("Enter radius:\n");
				scanf("%d",&r);
				a=4*pi*r*r;
				v=(4/3)*pi*r*r*r;
				printf("Area: %f\n",a);
				printf("Volume: %f\n",v);
				continue;
		case 2: printf("CONE:\n");
				printf("Enter radius:\n");
				scanf("%d",&r);
				printf("Enter height:\n");
				scanf("%d",&h);
				a=pi*r *(r+sqrt(h*h+r*r));
				v=pi*r*r*h/3;
				printf("Area: %f\n",a);
```

```
                printf("Volume: %f\n",v);
                continue;
        case 3: printf("Cylinder:\n");
                printf("Enter radius:\n");
                scanf("%d",&r);
                printf("Enter height:\n");
                scanf("%d",&h);
                a=2*pi*r*r+2*pi*r*h;
                v=pi*r*r*h;
                printf("Area: %f\n",a);
                printf("Volume: %f\n",v);
                continue;
        case 4:m=0;break;
        default:printf("INVALID INPUT!TRY AGAIN,\n");




    }


    }
    return 0;
}
```

output

```
PRESS
1)Sphere
2)Cone
3)Cylinder
4)Exit
2
CONE:
Enter radius:
4
Enter height:
5
Area: 130.663239
Volume: 83.733337
----------------------------------------
PRESS
1)Sphere
2)Cone
3)Cylinder
4)Exit
5
INVALID INPUT!TRY AGAIN,
----------------------------------------
```

```
PRESS
1)Sphere
2)Cone
3)Cylinder
4)Exit
4


...Program finished with exit code 0
Press ENTER to exit console.
```

Q7

Code:

***note: I have taken limit as 3 instead of 30 to show all possibilities as it would be difficult to insert such huge data**

```
#include <stdio.h>
struct course
{
	char name[20];
};

int main()
{
	struct course s[3][100];
	int n,i,j,c[3]={0,0,0},choice;
	char cn[3][10]={"IOT","JAVA","DS"};
	printf("Enter number of students:\n");
	scanf("%d",&n);
	printf("Enter student detals:\n");
	for(i=0;i<n;i++)
	{
		printf("------------------------\n");
		printf("Press code to select course:\n1 ) IOT\n2 ) ADVANCED JAVA\n3 ) DATA
STRUCTURES\n");
		scanf("%d",&choice);
		if(choice<0||choice>3)
		{
			printf("INVALID CHOICE!");
			continue;
		}
		printf("Enter name of student %d:\n",i+1);
		scanf("%s",&s[choice-1][c[choice-1]].name);
		c[choice-1]++;
```

```
}



//DISPLAY
disp:
for(i=0;i<3;i++)
{      if(c[i]>=0)
{
        printf("LIST OF STUDENTS OF COURSE %s :\n",cn[i]);
        for(j=0;j<c[i];j++)
        {
                printf("%d) %s \n",j+1,s[i][j]);


        }
}
}
for(i=0;i<3;i++)
{
        if(c[i]<3&&c[i]!=-1)
        {

                printf("Number of people less than 3 in course %s,please change the course:\n",cn[i]);
                for(j=0;j<c[i];j++)
                {
                        printf("Enter course code:\n");
                        scanf("%d",&choice);
                        if(choice==i+1){
                                printf("ENTER OTHER course!\n");
```

```
                    continue;
                }
                printf("Enter name:\n");
                scanf("%s",&s[choice-1][c[choice-1]].name);
                c[choice-1]++;
            }
            n=c[i];
            c[i]=-1;
        }
    }
    goto disp;
}
```

Output:

```
Enter number of students:
9
Enter student detals:
-----------------------
Press code to select course:
1 ) IOT
2 ) ADVANCED JAVA
3 ) DATA STRUCTURES
1
Enter name of student 1:
sam
-----------------------
Press code to select course:
1 ) IOT
2 ) ADVANCED JAVA
3 ) DATA STRUCTURES
3
Enter name of student 2:
tam
```

```
1
Enter name of student 3:
peter
------------------------
Press code to select course:
1 ) IOT
2 ) ADVANCED JAVA
3 ) DATA STRUCTURES
3
Enter name of student 4:
timm
------------------------
Press code to select course:
1 ) IOT
2 ) ADVANCED JAVA
3 ) DATA STRUCTURES
2
Enter name of student 5:
pam
------------------------
Press code to select course:
1 ) IOT
2 ) ADVANCED JAVA
3 ) DATA STRUCTURES
```

```
3 ) DATA STRUCTURES
2
Enter name of student 6:
jake
------------------------
Press code to select course:
1 ) IOT
2 ) ADVANCED JAVA
3 ) DATA STRUCTURES
1
Enter name of student 7:
henry
------------------------
Press code to select course:
1 ) IOT
2 ) ADVANCED JAVA
3 ) DATA STRUCTURES
3
Enter name of student 8:
mage
------------------------
Press code to select course:
1 ) IOT
2 ) ADVANCED JAVA
3 ) DATA STRUCTURES
```

```
LIST OF STUDENTS OF COURSE IOT :
1) sam
2) peter
3) henry
4) tom
LIST OF STUDENTS OF COURSE JAVA :
1) pam
2) jake
LIST OF STUDENTS OF COURSE DS :
1) tam
2) timm
3) mage
```

```
Number of people less than 3 in course JAVA,please change the course:
Enter course code:
1
Enter name:
pam
Enter course code:
3
Enter name:
jake
```

```
LIST OF STUDENTS OF COURSE IOT :
1) sam
2) peter
3) henry
4) tom
5) pam
LIST OF STUDENTS OF COURSE DS :
1) tam
2) timm
3) mage
4) jake
```