

Week 2 programs

3.

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

```
int main()
```

```
{
```

```
int n,i,j,k=1;
```

```
printf("enter the value of rows ");
```

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

```
for(i=1;i<=n;i++)
```

```
{
```

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

```
{
```

```
printf("%d\t",k);
```

```
k++;
```

```
}
```

```
printf("\n");
```

```
}
```

```
return 0;
```

```
}
```

Week 2 programs

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3.

```
#include <stdio.h>

int main()
{
    int n, i, j, k=1;
    printf("Enter the value of rows \n");
    scanf("%d", &n);

    for (i=1; i<=n; i++)
    {
        for (j=1; j<=i; j++)
        {
            printf("%d \n", k);
            k++;
        }
        printf("\n");
    }
    return 0;
}
```

Week 2 programs

4.

```
#include<stdio.h>

int main()

{   int a,b;

    printf("Enter two integers:");

    scanf("%d %d",&a,&b);

    int i,j,k;

    printf("The prime numbers between %d and %d:\n",a,b);

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

    {

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

        {

            if(i%j==0)

            {

                k=0;

                break;

            }

            else

                k=1;

        }

        if(k==1)

            printf("%d\n",i);   }

    return 0;

}
```

Week 2 programs

```
4.7
#include <stdio.h>

int main ()
{
    float cie_marks, see_marks;
    printf("Enter cie and see marks:");
    scanf("%f %f", &cie_marks, &see_marks);
    float total = cie_marks + (see_marks / 2);
    printf("The Grade of student: ");

    if (total >= 90)
        printf("S\n");
    else if (total >= 80 && total < 90)
        printf("A\n");
    else if (total >= 70 && total < 80)
        printf("B\n");
    else if (total >= 60 && total < 70)
        printf("C\n");
    elseif (total >= 50 && total < 60)
        printf("D\n");
    else if (total >= 40 && total < 50)
        printf("E\n");
    else
        printf("F\n");

    return 0;
}
```

Week 2 programs

5.

```
#include<stdio.h>

int main()
{
    float cie_marks, see_marks;

    printf("Enter cie and see marks:");

    scanf("%f %f",&cie_marks,&see_marks);

    float total = cie_marks + (see_marks/2);

    printf("The Grade of student:");

    if(total>=90)

        printf("S\n");

    else if(total>=80 && total<90)

        printf("A\n");

    else if(total>=70 && total<80)

        printf("B\n");

    else if(total>=60 && total<70)

        printf("C\n");

    else if(total>=50 && total<60)

        printf("D\n");

    else if(total>=40 && total<50)

        printf("E\n");

    else
```

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```
printf("F\n");  
return 0;  
}
```

Week 2 programs

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

int main()
{
    int a, b;
    printf("Enter two integers: ");
    scanf("%d %d", &a, &b);

    int i, j, k;

    printf("The prime numbers between %d and %d: \n", a, b);
    for (i = a; i <= b; i++)
    {
        for (j = 2; j <= i/2; j++)
        {
            if (i % j == 0)
            {
                k = 0;
                break;
            }
            else
                k = 1;
        }
        if (k == 1)
            printf("%d \n", i);
    }

    return 0;
}
```

Week 2 programs

6.

```
#include<stdio.h>

#include<string.h>

#include<math.h>

int main()
{
    char shape1[]="cylinder";
    char shape2[]="cone";
    char shape3[]="sphere";
    char quit[]="quit";
    char choice[50];
    const float pi=3.142;
    while(1)
    {
        printf("Enter a shape: ");
        scanf("%s",choice);

        if(strcmp(choice,shape1)==0)
```


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```
{  
    float r,h;  
  
    float a,v;  
  
    printf("Enter the radius and height of cylinder:");  
  
    scanf("%f %f",&r,&h);  
  
    a=(2*pi*r*h)+(2*pi*r*r);  
  
    v=pi*r*r*h;  
  
    printf("Area:%f Volume:%f\n",a,v);  
}  
  
else if(strcmp(choice,shape2)==0)  
{  
    float r,h;  
  
    float a,v;  
  
    printf("Enter the radius and height of cone:");  
  
    scanf("%f %f",&r,&h);  
  
    a=(pi*r)*(r + sqrt(h*h + r*r));  
  
    v=pi*r*r*(h/3);  
  
    printf("Area:%f Volume:%f\n",a,v);  
}  
  
else if(strcmp(choice,shape3)==0)  
{  
    float r;
```

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```
float a,v;

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

scanf("%f",&r);

a=4*pi*r*r;

v=(4.0/3.0)*pi*r*r*r;

printf("Area:%f Volume:%f\n",a,v);

}

else if(strcmp(choice,quit)==0)

    break;

else

    printf("Invalid choice");

printf("\n\nto exit enter *quit else\t");

}

return 0;

}
```

Week 2 programs

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

int main()
{
    char shape1[] = "cylinder";
    char shape2[] = "cone";
    char shape3[] = "sphere";
    char quit[] = "quit";
    char choice[50];
    const float pi = 3.142;

    while(1)
    {
        printf("Enter a shape: ");
        scanf("%s", choice);
        if (strcmp(choice, shape1) == 0)
        {
            float r, h;
            float a, v;
            printf("Enter the radius and height of cylinder: ");
            scanf("%f %f", &r, &h);
            a = (2 * pi * r * h) + (2 * pi * r * r);
            v = pi * r * r * h;
            printf("Area: %f Volume: %f\n", a, v);
        }
    }
}
```

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```

else if (strcmp (choice, shape2) == 0)
{
    float r, h;
    float a, v;
    printf("Enter the radius and height of cone:");
    scanf ("%f %f", &r, &h);
    a = (pi * r) * (r + sqrt (h * h + r * r));
}
else if (strcmp (choice, shape3) == 0)
{
    float r;
    float a, v;
    printf("Enter the radius of sphere:");
    scanf ("%f", &r);
    a = 4 * pi * r * r;
    v = (4.0 / 3.0) * pi * r * r * r;
    printf ("Area: %f Volume: %f \n", a, v);
}
else if (strcmp (choice, quit) == 0)
    break;
else
    printf ("Invalid choice");

printf ("\n\n To Exit enter *quit else 1+");
}

return 0;
}
```

Week 2 programs

7.

Week 2 programs

7] #include <stdio.h>
#include <string.h>
int main()
{
 const int n;
 printf("Enter the number of students:");
 scanf("%d", &n);
 printf("choose the option: \n");
 printf("1- internet of things \n");
 printf("2- advanced java \n");
 printf("3- advanced data structures \n");
 char name[n][20];
 int choice[n];
 char iot[n][20];
 char aj[n][20];
 char ads[n][20];
 int iotc=0, ajc=0, adsc=0;
 int i;
 printf("Enter the names of choice of students: \n");
 for(i=0; i<n; i++)
 {
 printf("%d:", i+1);
 scanf("%s %d", name[i], &choice[i]);
 }
}

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```

for (i=0; i<n; i++)
{
    if (choice[i] == 1)
    {
        strcpy(iot[iotc], name[i]);
        iotc++;
    }
    else if (choice[i] == 2)
    {
        strcpy(aj[ajc], name[i]);
        ajc++;
    }
    else if (choice[i] == 3)
    {
        strcpy(ads[adsc].name[i]);
        adsc++;
    }
}

printf("The student in iot:\n");
for (i=0; i<iotc; i++)
    printf("%s\n", iot[i]);
printf("The student in aj:\n");
for (i=0; i<ajc; i++)
    printf("%s\n", aj[i]);

```


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```
printf("The student in ads:\n");  
for (i=0; i<adsc; i++)  
    printf("%s\n", ads[i]);  
if (iotc < 5)  
{
```

```
    printf("The number of students are less in  
    iot, please choose other courses.\n");
```

```
    int choice_iot[iotc];  
    for (i=0; i<iotc; i++)  
    {  
        printf("%s:", iot[i]);  
        scanf("%d", &choice_iot[i]);  
    }
```

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

```
        if (choice_iot[i] == 2)  
        {  
            strcpy(aj[ajc], iot[i]);  
            ajc++;
```

```
        }  
        else if (choice_iot[i] == 3)  
        {
```

```
            strcpy(ads[adsc], iot[i]);  
            adsc++;
```

```
        }
```

```
    }
```


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printf("the student in aj:\n");
for (i=0; i<ajc; i++)
printf("%s\n", aj[i]);
printf("The student in ads:\n");
for (i=0; i<adsc; i++)
printf("%s\n", ads[i]);

8

else if (ajc < 5)

{

printf("The number of students are less
in aj, please choose other courses.\n");

int choice_aj[ajc];

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

{

printf("%s:", aj[i]);

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

8

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

{

if (choice_aj[i] == 2)

{

strcpy(iot[iotc], aj[i]);

iotc++;

8

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```
else if (choice aj[i] == 3)
```

```
{
```

```
strcpy(ads[adsc], aj[i]);
```

```
adsc++;
```

```
}
```

```
}
```

```
printf("The student in iot:\n");
```

```
for(i=0; i<iotc; i++)
```

```
printf("%s\n", iot[i]);
```

```
printf("The student in ads:\n");
```

```
for(i=0; i<adsc; i++)
```

```
printf("%s\n", ads[i]);
```

```
}
```

```
else if (adsc < 5)
```

```
{
```

```
printf("The number of students are less  
in ads, please choose other course.\n");
```

```
int choice_ads[adsc];
```

```
for(i=0; i<adsc; i++)
```

```
{
```

```
printf("%s:", ads[i]);
```

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

```
}
```

```
for(i=0; i<adsc; i++)
```

```
{
```


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```

    if (choice - ads[i] == 2)
    {
        strcpy(iot[iotc], ads[i]);
        iotc++;
    }
    else if (choice - ads[i] == 3)
    {
        strcpy(aj[ajc], ads[i]);
        ajc++;
    }
}

printf("The students in iot:\n");
for(i=0; i<iotc; i++)
    printf("%s\n", iot[i]);
printf("The students in aj:\n");
for(i=0; i<ajc; i++)
    printf("%s\n", aj[i]);
}

return 0;
}
```

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