

3. #include <stdio.h>

int main() {

int n; printf("Enter the number");

scanf("%d", &n);

int a=1;

for (int i=1; i<=n; i++) {

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

printf("%d", a);

a++;

}

printf("\n");

}

return 0;



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```

4. #include <stdio.h> → struct marks {
                                int CIE mark, SEE marks;
                                } m;

int main () {
    int marks[5];
    int CIEmarks[5], SEE marks[5];
    printf printf struct mark m[5];
    for (int i=0; i<5; i++) {
        printf "Enter the students CIE marks of\n subject %.d ", i+1;
        scanf ( " %.d ", CIEmarks[i]);
        printf "Enter the students SEE marks\n of subject %.d ", i+1;
        scanf ( " %.d ", &SEEmarks[i]);
    }
    for (int i=0; i<5; i++) {
        printf "The students grade for\n subject %.d is ", i+1;
    }
}

```

```

float (float)
float t = (IE marks[i] + (float)(SBE marks[i])) / 2;

```

```

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

```

```

}

```

```

return 0;

```



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```

5. #include <stdio.h>

```

```

int inputN(int a) {
    int n;
    printf("Enter the a number\n");
    scanf("%d", &n);
    return n;
}

```

```

}

```

```

void invalidInput() {
    printf("The input is invalid\n");
}

```

```

}

```

```

void printPrime(int a, int b) {
    for (int i = a; i <= b; i++) {
        for (int j = 2; j <= i/2; j++) {
            if (i % j == 0)
                break;
        }
    }
}

```



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```
if (j == i/2) {  
    printf ("The number is prime\n");  
}
```

```
}
```

```
int main ()
```

```
{
```

```
    int a, b;
```

```
    a = Input N(1);
```

```
    b = Input N(2);
```

```
    if (a >= b)
```

```
        invalid Input ();
```

```
    else
```

```
        print Prime (a, b);
```

```
    return 0;
```

```
}
```



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```

6. #include <stdio.h> #include <math.h>
# Define PI 3.14
int userInput() { int n;
    printf("Please choose one of the shapes \n");
    printf("1. Cylinder\n");
    printf("2. Cone \n");
    printf("3. Sphere \n");
    return scanf("%d", &n);
    return n;
}

```

```

}
void cylinder() { int float r, h;
    printf("Enter the radius and height of cylinder \n");
    scanf("%f %f", &r, &h);
    areaCylinder
    areaCylinder(r, h);
    area VolumeCylinder(r, h);
}

```



void

```
areaCylinder (float r, float h) {  
    float a = (2 * PI * r * h) + (2 * PI * r * r);  
    printf ("The area of the cylinder is %.5f\n", a);  
}
```

```
void volumeCylinder (float r, float h) {  
    float v = PI * r * r * h;  
    printf ("The volume of the cylinder is %.5f\n", v);  
}
```

```
void cone () { float r, h;  
    printf ("Enter the radius and height of cone");  
    scanf ("%f", &r, &h);  
    areaCone (r, h);  
    volumeCone (r, h);  
}
```

```
void areaCone (float r, float h) {  
    float a = PI * r * (r + sqrt(h * h + r * r));  
    printf ("The area of the cone is %.5f\n", a);  
}
```

```
void volumeCone (float r, float h) {  
    float v = (PI * r * r * h) / 3;  
    printf ("The volume of the cone is %.5f\n", v);  
}
```

```
void Sphere () {  
    float r;  
    printf ("Enter the radius of the sphere");  
    scanf ("%f", &r);  
    areaSphere (r);  
    volumeSphere (r);  
}
```

```
void areaSphere (float r) {  
    float a = 4 * PI * r * r;  
    printf ("The area of the sphere is %.5f\n", a);  
}
```



```

void volumeSphere (float r) {
    float v = (4 * PI * r * r * r) / 3;
    printf("The volume of the sphere is %.5f\n", v);
}

```

```

int main () {

```

```

    int a;

```

```

    a = UserInput();

```

```

    switch (a) {

```

```

        case 1:

```

```

            cylinder();

```

```

            break;

```

```

        case 2:

```

```

            cone();

```

```

            break;

```

```

        case 3:

```

```

            sphere();

```

```

            break;

```

```

        default:

```

```

            printf("Enter valid input");

```

```

    }

```

```

    return 0;
}

```