CS354: Lec 003

Java to C Demo

```java
public class HelloWorld() {
    public static void main(String[] args) {
        System.out.println("Hello World");
    }
}
```

```c
#include <stdio.h>
int main() {
    printf("hello, world");
    return 0;
}
```

```java
import java.util.Scanner;

public class VolumeOfCylinder() {
    public static void main(String[] args) {
        final double PI = Math.PI;
        Scanner input = new Scanner(System.in);
        double radius;

        System.out.print("Enter the radius of the cylinder:");
        radius = input.nextDouble();
        System.out.print("Enter the height of the cylinder:");

        double height = input.nextDouble();

        double volume;

        volume = PI * radius * radius * height;
        System.out.println("The volume of the cylinder = %.2f\n", volume);

        input.close();
    }

}
```

```c
#include <stdio.h>
#include <math.h>
int main() {
    const double PI = M_PI;
    double radius;

    printf("Enter the radius of the cylinder: ");
    scanf("%lf", &radius);./

    printf("Enter the height of the cylinder: ");

    double height;
    scanf("%lf", &height);

    double volume;
    volume = PI * radius * radius * height;

    printf("The volume of the cylinder = %.2f\n", volume);
    return 0;
}
```

Arrays and Pointers

```c
#include <stdio.h>
int main() {
    int arr[] = {10, 20, 30, 40};
    arr[0] = 15;

    for (int i = 0; i < 4; i++) {
        printf("arr[%d] = %d\n", i, arr[i]);
    }

    return 0;
}
```