Problem 1

```
public class ProblemOne {
	public static void main(String[] args) {
		int x = RandomNumbers.getRandomInt(1, 9);
		System.out.println(Math.pow(Math.PI, x));

		int y = RandomNumbers.getRandomInt(3, 14);
		System.out.println(Math.pow(y, Math.PI));
	}
}
```

Output

```
97.40909103400242
2456.675951201724
```

Problem 2

```
public class ProblemTwo {
	public static void main(String[] args) {
		float x = 1.27f;
		float y = 3.881f;
		float z = 9.6f;

		System.out.println((int) (x + y + z));

		System.out.println(Math.round(x + y + z));

	}
}
```

Output

```
14
15
```

Problem 3

```
public class ProblemThree {

	public static void main(String[] args) {
		String records = "231A,Light Bulb,123,Wilco,1.75:" +
"113D,Hairbrush,19,Aamco,3.75:"
				+ "521W,Shampoo,24,Acme,6.95:" +
"440Q,Dishwashing Detergent,20,Wilco,1.75:"
				+ "009G,Toothbrush,77,Wilco,0.85:" +
"336C,Comb,34,Wilco,0.99:"
```

```
                                + "523E,Paper Pad Set,109,Congdon and
Chrome,2.45:" + "888A,Fake Diamond Ring,111,AmericusDiamond,3.95:"
                                + "176A,Romance Nove1 1,20,Barnes and
Noble,3.50:" + "176B,Romance Nove1 2,20,Barnes and Noble,3.50:"
                                + "176C,Romance Nove1 3,20,Barnes and
Noble,3.50:" + "500D,Floss,44,Wilco,1.25:"
                                + "135B,Ant Farm,5,Wilco,8.00:" +
"211Q,Bicycle,9,Schwinn,75.95:"
                                + "932V,Pen Set,50,Congdon and Chrome,9.95:" +
"678Q,Pencil 50,123,Congdon and Chrome,9.95:"
                                + "239A,Colored Pencils,25,Congdon and
Chrome,4.75:" + "975B,Shower Curtain,25,Wilco,6.50:"
                                + "870K,Dog Bowl,15,Wilco,4.75:" + "231S,Cat
Bowl,15,Wilco,4.75:" + "562M,Kitty Litter,15,Wilco,3.25:"
                                + "777X,Dog Bone,15,Wilco,4.15:" + "933W,Cat
Toy,15,Wilco,2.35:"
                                + "215A,Hair Ball,0,Little Jimmy,0.00:";


String[] arr = records.split(":");
                for (int i = 0; i < arr.length; i++) {
                        String[] arr2 = (arr[i].split(","));
                        System.out.println(arr2[0]);
                }

        }
}
```

Output

```
231A
113D
521W
440Q
009G
336C
523E
888A
176A
176B
176C
500D
135B
211Q
932V
678Q
239A
975B
870K
231S
562M
777X
933W
215A
```

Problem 4

```
public class ProblemFour {
	public static void main(String[] args) {
		Scanner scanner = new Scanner(System.in);
		System.out.print("Please enter a String : ");
		String input = scanner.nextLine();
		for (int i = input.length() - 1; i >= 0; i--) {
			System.out.print(input.charAt(i));
		}
		scanner.close();
	}
}
```

Output

```
Please enter a String : mohamed
demahom
```

Problem 5

```
public class ProblemFive {

	public static void main(String[] args) {

		RandomNumbers rn = new RandomNumbers();
		int[][] twoDspecified = new int[4][4];

		for (int row = 0; row < twoDspecified.length; row++) {
			for (int col = 0; col < twoDspecified[row].length; col++) {
				twoDspecified[row][col] = rn.getRandomInt(1, 99);
			}
		}
		for (int row = 0; row < 1; row++) {
			for (int col = 0; col < twoDspecified[row].length; col++) {
				System.out.print(twoDspecified[row][col] + "\t");
			}

			System.out.println();
		}
		for (int row = 1; row < 2; row++) {
			for (int col = 0; col < twoDspecified[row].length; col++) {
				System.out.print("+ " + twoDspecified[row][col] +
"\t");
			}

			System.out.println("");
		}

		System.out.print("___" + "\t");
```

```
                System.out.print("____" + "\t");
                System.out.print("____" + "\t");
                System.out.print("____" + "\t");

                System.out.println();
                System.out.println();
                System.out.println();

                for (int row = 2; row < 3; row++) {
                        for (int col = 0; col < twoDspecified[row].length; col++) {
                                System.out.print(twoDspecified[row][col] + "\t");
                        }
                        System.out.println("");
                }

                for (int row = 3; row < 4; row++) {
                        for (int col = 0; col < twoDspecified[row].length; col++) {
                                System.out.print("+ " + twoDspecified[row][col] +
"\t");
                        }
                        System.out.println("");
                }
                System.out.print("____" + "\t");
                System.out.print("____" + "\t");
                System.out.print("____" + "\t");
                System.out.print("____" + "\t");
        }
}
```

Output

```
28      78      98      13
+ 2     + 70    + 44    + 11
_____   _____   _____   _____


35      90      19      84
+ 92    + 63    + 68    + 56
_____   _____   _____   _____
```

Problem_6

```
public class ProblemSix {
        public static void main(String[] args) {
                String[] s = { "horse", "dog", "cat", "horse", "dog" };
                s = removeDups(s);
                System.out.println(Arrays.toString(s));

        }
```

```
	public static String[] removeDups(String[] a) {
		int len = a.length;
		for (int i = 0; i < a.length; i++) {
			for (int j = a.length - 1; j > i; j--) {
				if (a[i].equals(a[j])) {
					for (int k = j + 1; k < a.length; k++) {
						a[k - 1] = a[k];
						len--;
					}
				}
			}
		}
		String[] b = new String[len];
		for (int i = 0; i < len; i++) {
			b[i] = a[i];
		}
		return b;
	}

}
```

Output

```
[horse, dog, cat]
```

Problem 7

```
public class ProblemSeven {

	public static void main(String[] args) {
		int counter = 0;
		if (args.length > 0) {
			for (int i = 0; i < args.length; i++) {
				System.out.println("length of String in position " + i
+ " is: " + args[i].length());

			}
			System.out.println("---------------------------------------");
			for (int i = 0; i < args.length; i++) {
				if (args[i].startsWith("a")) {
					counter++;
					System.out.println("number of strings
started with A: " + counter);
				}
			}
		}
	}
```

hint: my parameters are Aya Mohamed

Output

```
length of String in position 0 is: 3
length of String in position 1 is: 7
--------------------------------------
number of strings started with A: 1
```

Problem 8

```
public static void main(String[] args) {
		int[] arr = { 2, -21, 3, 45, 0, 12, 18, 6, 3, 1, 0, -22 };
		System.out.println("Min = " + min(arr));

	}

	static int min(int[] arrayOfInts) {
		int min = 0;

		for (int i = 0; i < arrayOfInts.length; i++) {
			if (arrayOfInts[i] < min) {
				min = arrayOfInts[i];
			}
		}
		return min;
	}
}
```

Output

```
Min = -22
```