



الجامعة العربية المفتوحة  
Arab Open University

## Meeting 4 – Part 2

ملاحظة: جميع الأمثلة والواجبات التي بالملف مع اسئلة امتحانات العملي السابقة الخاصة  
بجزئية الوايل لوب

# while loop

## (1) while loop with numeric sentinel value

```
System.out.print("Enter gpa or -1 to stop the program: ");
double gpa = s.nextDouble();
while(gpa != -1){ // sentinel value = -1
    -----
    gpa = s.nextDouble();
}
```

## Example:

Write a Java program that:

- Reads from the user many real values represent GPAs of students in a class.
- Calculates the GPA average of the class and prints it rounded to 2 decimal places.

**Hint:**

- Enter the value -1 to stop the program
- The input and output of your program should be like the following:

Enter GPAs of students (enter -1 to stop your program): 3.1 2.7 1.5 3.9 1.8 -1  
GPA average of the class is: 2.60

```

import java.util.Scanner;
public class Meeting4_Test6 {
    public static void main(String[] args) {
        double gpa = 0, average = 0, sum = 0;
        int count = 0;
        Scanner s = new Scanner(System.in);
        System.out.print("Enter the GPA of the students or -1 to stop the program: ");
        gpa = s.nextDouble();
        while(gpa != -1){
            sum = sum + gpa;
            count++;
            gpa = s.nextDouble();
        }
        average = sum / count;
        System.out.printf("GPA average of the class = %.2f", average);
    }
}

```



## Test yourself

Write java program that:

- Reads from user many real values represent the temperatures.
- Finds the maximum temperature rounded to 3 decimal places.
- Finds the average temperatures rounded to 2 decimal places.
- Counts how many positive temperatures.
- Counts how many negative temperatures.
- Counts how many zeros temperatures.

Hint:

- Enter the value -10000 to stop the program.
- The input and output of your program should be like the following:

Enter the temperature or -10000 to stop the program: 30.7 20 -2 10 -10000

The maximum temperature is: 30.700

The average temperatures is: 14.68

The number of positive temperatures is: 3

The number of negative temperatures is: 1

The number of zeros temperatures is: 0

## (2) while loop with character sentinel value

```
System.out.print("Enter a character or z to stop the program: ");  
char c = s.next().charAt(0);  
while(c != 'z') { // sentinel value = 'z'  
    -----  
    c = s.next().charAt(0);  
}
```

### Example:

#### Write a java program that:

- Reads from user many character values.
- Prints how many letters are vowel letters.

#### Hint:

- Enter the value **z** to stop the program.
- The input and output of your program should be like the following:

Enter the characters or **z** to stop the program: **p a t s o r z**  
Number of the vowel letters is: **2**

```

import java.util.Scanner;
public class Meeting4_Test7 {
    public static void main(String[] args) {
        char c = ' ';
        int count = 0;
        Scanner s = new Scanner(System.in);
        System.out.print("Enter the characters or z to stop the program: ");
        c = s.next().charAt(0);
        while (c != 'z'){
            if(c == 'a' || c == 'o' || c == 'u' || c == 'i' || c == 'y'){
                count++;
            }
            c = s.next().charAt(0);
        }
        System.out.println("The number of the vowel letters are: " + count);
    }
}

```



## Test yourself

**Write a java program that:**

- Reads from user many character values.
- Prints how many letters are **not** vowel letters.

**Hint:**

- Enter the value **z** to stop the program.
- The input and output of your program should be like the following:

Enter the characters or **z** to stop the program: **p a t s o r z**

Number of the non vowel letters are: **4**

### (3)while loop with string sentinel value

```
System.out.print("Enter your friend_name or finish to stop the program: ");
String freindName = s.next();
while( ! freindName.equals("finish")){ // sentinel value = "finish"
    -----
    freindName = s.next();
}
```



## Example:

Write a Java program that:

- Reads your first name
- Reads the first names of your friends.
- Counts and prints the number of your friends whose first names are identical to your first name.

**Hints:**

- Enter the word "stop" to stop the program.
- The input and output of your program should be like the following:

Please, insert your first name: Ahmad  
Please, insert the first names of your friends (enter "stop" to stop your program):  
Hisham  
Ahmad  
Nader  
Ahmad  
stop  
2 of your friends their first names are identical to your first name

```

import java.util.Scanner;
public class Meeting6_Test8 {
    public static void main(String[] args) {
        String myName = "", friendName = "";
        int count = 0;
        Scanner s = new Scanner(System.in);
        System.out.print("Enter your first name: ");
        myName = s.next();
        System.out.println("Please, insert the first name of your friends or stop to
stop your program: ");

        friendName = s.next();
        while (!friendName.equals("stop")){
            if(friendName.equals(myName)){
                count++;
            }
            friendName = s.next();
        }
        System.out.println(count + " of your frinds their first name identical to
your first name");
    }
}

```





## Test yourself

### Write a java program that:

- Reads your first name.
- Reads the first name of your friend name.
- Counts and prints the number of your friend names their first character are **not** equal to your first character in your first name.

### Hint:

- Enter the word **finish** or the word **end** to stop the program.
- The input and output of your program should be like the following:

Enter your first name: **Ahmed**

Enter the first name of your friend name or finish to stop the program: **Hisham Ahmed Nader ahmed finish**  
**3** of your friends the first character in their names are not equal to the first character of your name.

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