FIFO

**package** fifo;

**import** java.util.\*;

**public** **class** FIFO {

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

System.***out***.println("Enter the size of the reference string:");

**int** refLength = sc.nextInt();

System.***out***.println("Enter the size of the frame:");

**int** frameSize = sc.nextInt();

**int** pointer = 0;

**int** hit = 0, fault = 0;

**int** search;

**int**[] buffer = **new** **int**[frameSize];

**int**[][] memLayout = **new** **int**[refLength][frameSize];

**int**[] reference = **new** **int**[refLength];

System.***out***.println("Enter the reference string:");

**for** (**int** i = 0; i < refLength; i++) {

reference[i] = sc.nextInt();

}

**for** (**int** i = 0; i < frameSize; i++) {

buffer[i] = -1;

}

**for** (**int** i = 0; i < refLength; i++) {

search = -1;

**for** (**int** j = 0; j < frameSize; j++) {

**if** (reference[i] == buffer[j]) {

hit++;

search = j;

**break**;

}

}

**if** (search == -1) {

buffer[pointer] = reference[i];

pointer++;

fault++;

**if** (pointer == frameSize) {

pointer = 0;

}

}

**for** (**int** j = 0; j < frameSize; j++) {

memLayout[i][j] = buffer[j];

}

}

System.***out***.println("\nMemory Layout:");

**for** (**int** i = 0; i < refLength; i++) {

**for** (**int** j = 0; j < frameSize; j++) {

**if** (memLayout[i][j] == -1) {

System.***out***.print("-1");

} **else** {

System.***out***.print(memLayout[i][j] + " ");

}

}

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

}

System.***out***.println("\nTotal Hits: " + hit);

System.***out***.println("Total Faults: " + fault);

sc.close();

}

}

OUTPUT:-

