Marasigan\_CircularQueues

|  |
| --- |
| Source Code  **package** queues;  **import** java.util.Scanner;  **public** **class** Marasigan\_CircularQueues  {  **static** Scanner *in* = **new** Scanner(System.***in***);  //variables  **static** **int** [] *queue*;  **static** **int** *rear*=-1;  **static** **int** *front*=-1;  **static** **int** *choice* = 0;    **public** **static** **void** main(String[] args)  {  System.***out***.print("Enter the size of the Queue:\t");  *queue* = **new** **int**[*in*.nextInt()];  **do**  {  System.***out***.println();  System.***out***.print("Menu\n\t1. Enqueue\n\t2. Dequeue\n"  + "\t3. Display Queue\n\t4. Exit\nEnter Choice [1..4]: ");  *choice* = *in*.nextInt();  **switch** (*choice*)  {  **case** 1: *Enqueue*(); **break**;  **case** 2: *Dequeue*(); **break**;  **case** 3: //Display\_Queue.CircleBeta();  Display\_Queue.*ArrayPrint*();  Display\_Queue.*Status*();  **break**;  **case** 4: *Exit*(); **break**;  **default**: *choice* = 5; **break**;  }  }  **while** (*choice* < 6 );  }    **static** **void** Enqueue()  {    System.***out***.println();  System.***out***.println("\t-=ENQUEUE=-");  **do**  {  System.***out***.print("Enter a number: ");  **int** data = *in*.nextInt();  **int** backup = *rear*;  *rear* = (*rear*+1)% *queue*.length;    **if** (*front* == *rear*)  {  System.***out***.println("Queue is full");  *rear* = backup;  *choice* = 0;  }  **else**  {  *queue*[*rear*] = data;  System.***out***.print("Want to add more? Yes[1] No[0]: ");  *choice* = *in*.nextInt();  }  **if** (*front* == -1)  {  *front* = 0; *rear* = 0;  }  }  **while** (*choice* == 1);  Display\_Queue.*ArrayPrint*();  Display\_Queue.*Status*();  }    **static** **void** Dequeue()  {  System.***out***.println();  System.***out***.println("\t-=DEQUEUE=-");  **do**  {  **if** (*front*==-1)  {  System.***out***.println("Queue is empty");  }  **else**  {  System.***out***.print(*queue*[*front*] + " is removed");  *queue*[*front*] = 0;  }  **if** (*rear* == *front*)  {  *front*= -1;  *rear* = -1;  }  **else**  {  *front* = (*front*+1)%*queue*.length;  }    System.***out***.print("\nDo you want to Dequeue again? Yes[1] No[0]: ");  *choice* = *in*.nextInt();    }**while** (*choice* == 1);    Display\_Queue.*ArrayPrint*();  Display\_Queue.*Status*();  }    **class** Display\_Queue  {  //Array printing  **static** **void** ArrayPrint()  {  System.***out***.println();  System.***out***.print("\t+");  **for** (**int** i = 0; i < *queue*.length; i++)  {  System.***out***.print("-------+");  }  System.***out***.println();    System.***out***.print("QUEUE:\t");  System.***out***.print("|");  **for** (**int** i = 0; i < *queue*.length; i++)  {  **if** (*queue*[i] == 0)  System.***out***.print(" " + "\t|");  **else**  System.***out***.print(*queue*[i] + "\t|");  }  System.***out***.println();    System.***out***.print("\t+");  **for** (**int** i = 0; i < *queue*.length; i++)  {  System.***out***.print("-------+");  }  System.***out***.println();    System.***out***.print("INDEX:\t");  System.***out***.print("|");  **for** (**int** i = 0; i < *queue*.length; i++)  {  System.***out***.print(i + "\t|");  }  System.***out***.println();    System.***out***.print("\t+");  **for** (**int** i = 0; i < *queue*.length; i++)  {  System.***out***.print("-------+");  }  System.***out***.println();  }    //Linear printing  **static** **void** LinearPrint()  {  **int** i = *front*;  **if** (i == -1)  {  System.***out***.println("Queue is Empty");  }  **else**  {  **do**  {  System.***out***.print(*queue*[i]);  i= (i+1)%*queue*.length;    **if** (i != (*rear*+1)%*queue*.length)  System.***out***.print("-"); //prints dashes only in between    }**while** (i != (*rear*+1)%*queue*.length);  System.***out***.println();  }  }    **static** **void** Status()  {  System.***out***.println();  System.***out***.print("[Status]\nQueue: ");  Display\_Queue.*LinearPrint*();      System.***out***.print("Front index: " + *front* + "\t\t");  **if** (Marasigan\_CircularQueues.*front* == -1)  {  System.***out***.print("Data: No Data");  }  **else**  {  System.***out***.print("Data: " + *queue*[*front*]);  }    System.***out***.print("\nRear index: " + *rear* + "\t\t");  **if** (Marasigan\_CircularQueues.*rear* == -1)  {  System.***out***.print("Data: No Data");  }  **else**  {  System.***out***.print("Data: " + *queue*[*rear*]);  }  System.***out***.println();  }    **static** **void** CircleBeta()  {  System.***out***.println();  System.***out***.println(" 7 0");  System.***out***.println("6 " + *queue*[0] + " " + *queue*[1]+ " 1");  System.***out***.println(" " +*queue*[2] + " " + *queue*[3]);  System.***out***.println(" "+ *queue*[4] + " " + *queue*[5]);  System.***out***.println("5 " + *queue*[6] + " " + *queue*[7] + " 2");  System.***out***.println(" 4 3");  }  }    **static** **void** Exit()  {  System.***out***.println();  System.***out***.println("\tThank you po ^\_^\n"  + " By: Marasigan, Vem Aiensi");  System.*exit*(1);  }    } |
| Screenshot  **1.**    2.    **3.**    **4.**    **5.**    **6.**    **7.**    **8.**    **9.**    **10.**    **11.**    **12.** |