

CECS 174 – Lecture 14 – Error Checking and Sentinel Values

Checking User Input – To avoid run time errors, you may want to check that the user has not entered invalid data. The scanner's buffer is used to check incoming input.

```
boolean test = true;
int num = 0;

while( test ){
    System.out.println("Enter a number");
    if(in.hasNextInt()){ //peek at buffer
        num = in.nextInt(); //buffer is an integer
        test = false;       //toggle flag to end loop
    }else{ //else, buffer was not an integer
        in.next(); //clear buffer
        System.out.println("Invalid Input");
    }
}
```

Sentinel Values – Sentinel values are used as flags to signify that an event has happened. A common example of using sentinel values is if a user is inputting a stream of data and wants to signal the computer that they are finished inputting.

```
boolean done = false;
double sum = 0;
while( !done ){
    System.out.print("Enter a value, or Q to quit: ");
    if(in.hasNextDouble()){
        sum += in.nextDouble();
    }else{
        char input = in.next().charAt(0);
        if(input == 'Q' || input == 'q'){
            done = true;
        }else{
            System.out.println("Invalid Input");
        }
    }
}
System.out.println("Your Sum is: " + sum );
```

```
/*Output:
Enter a value, or Q to quit: 10
Enter a value, or Q to quit: 7
Enter a value, or Q to quit: 15
Enter a value, or Q to quit: 5
Enter a value, or Q to quit: Q
Your Sum is: 37.0 */
```