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EXPERIMENT NO. 1

Aim:

Programs on accepting input through keyboard.

Theory:

BufferedReader Class:

The BufferedReader class of Java is used to read the stream of characters from the specified source (character-input stream). The constructor of this class accepts an InputStream object as a parameter.

Constructors in BufferedReader Class:

1. BufferedReader(Reader rd)- It is used to create a buffered character input stream that uses the default size for an input buffer.
2. BufferedReader(Reader rd, int size)- It is used to create a buffered character input stream that uses the specified size for an input buffer.

BufferedReader class Methods:

1. int read()-It is used for reading a single character.
2. int read(char[] cbuf, int off, int len)- It is used for reading characters into a portion of an array.
3. boolean markSupported()-It is used to test the input stream support for the mark and reset method.
4. String readLine()-It is used for reading a line of text.
5. boolean ready()-It is used to test whether the input stream is ready to be read.
6. long skip(long n)- It is used for skipping the characters.
7. void reset()-It repositions the stream at a position the mark method was last called on this input stream.
8. void mark(int readAheadLimit)- It is used for marking the present position in a stream.
9. void close()-It closes the input stream and releases any of the system resources associated with the stream.

Syntax:

```
BufferedReader reader =new BufferedReader(new InputStreamReader(System.in));
```

String name = reader.readLine();

int age = Integer.parseInt(reader.readLine());

Scanner Class:

The Scanner class is used to get user input, and it is found in the java.util package.

To use the Scanner class, create an object of the class and use any of the available methods found in the Scanner class documentation.

Scanner Class Methods:

1. nextBoolean()-Reads a boolean value from the user
2. nextByte()-Reads a byte value from the user
3. nextDouble()-Reads a double value from the user
4. nextFloat()-Reads a float value from the user
5. nextInt()-Reads a int value from the user
6. nextLine()-Reads a String value from the user
7. nextLong()-Reads a long value from the user
8. nextShort()-Reads a short value from the user

Syntax:

Scanner input = new Scanner(System.in);

int number = input.nextInt();

A. WAP to check if an integer (Accepted from user via BufferedReader class) is a two digit number or not.

Program:

TwoDigit.java - Notepad

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```
import java.io.*;

public class TwoDigit {
    public static void main(String[] args) throws IOException {
        System.out.println("Enter a number:\n");
        BufferedReader bufferedReader = new BufferedReader(new InputStreamReader(System.in));
        int n = Integer.parseInt(bufferedReader.readLine());
        if(n>9 && n<100){
            System.out.println("The number entered, "+ n + " is a two digit number.");
        }
        else{
            System.out.println("The number entered, "+ n + " is not a two digit number.");
        }

    }
}
```

Output:

```
C:\Users\Puru\Desktop>javac New.java

C:\Users\Puru\Desktop>java New
Enter a number
34
Two dig number

C:\Users\Puru\Desktop>
```

B. WAP to print the Percentage range of a student as per following criteria for the grade accepted via Scanner class.

Percentage Range	Grade
0-60	F
61-70	D
71-80	C
81-90	B
91-100	A

Program:

*Percentage.java - Notepad

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```
import java.util.Scanner;
public class Percentage {
    public static void main(String[] args) {
        System.out.print("Enter the grade obtained: ");
        Scanner s = new Scanner(System.in);
        char grade = s.next().charAt(0);
        char a = Character.toUpperCase(grade);
        switch(a){
            case 'A':
                System.out.println("Your marks are between 91-100.");
                break;
            case 'B':
                System.out.println("Your marks are between 81-91.");
                break;
            case 'C':
                System.out.println("Your marks are between 71-80.");
                break;
            case 'D':
                System.out.println("Your marks are between 61-70.");
                break;
            case 'F':
                System.out.println("Your marks are between 0-60.");
                break;
            default:
                System.out.println("The entered grade is not valid.");
                break;

        }
    }
}
```

Output:

```
C:\Users\Puru\Desktop\Java>java Second
Enter your grade
B
You have scored between 81% to 90%
C:\Users\Puru\Desktop\Java>
```

C. Admission to professional course is based on following conditions:

1. Marks in mathematics>=60.
2. Marks in physics>=50.
3. Marks in chemistry>=40.
4. Total marks in three subjects>=200.

Accept the marks in three subjects (use BufferedReader class) and decide if the student is eligible to get admission or not.

Program:

AddmissionEligibilty.java - Notepad

File Edit Format View Help

```
import java.io.*;

public class AddmissionEligibilty {
    public static void main(String[] args) throws IOException{
        System.out.println("Enter your marks in Mathematics, Physics and Chemistry respectively");
        BufferedReader bufferedReader = new BufferedReader(new InputStreamReader(System.in));
        int mathScore = Integer.parseInt(bufferedReader.readLine());
        int phyScore = Integer.parseInt(bufferedReader.readLine());
        int chemScore = Integer.parseInt(bufferedReader.readLine());
        int totalScore = mathScore+phyScore+chemScore;

        if(mathScore>=60 && phyScore>=50 && chemScore>=40 && totalScore>=200){
            System.out.println("You are eligible to get admitted to the institute");
        }
        else{
            System.out.println("You are not eligible for admission in the institute");
        }

    }
}
```

Output:

```
C:\Users\Puru\Desktop\Java>javac Third.java

C:\Users\Puru\Desktop\Java>java Third
Enter your Physics, Chemistry, Maths marks :
80
61
42
You are not eligible for admission !

C:\Users\Puru\Desktop\Java>
```