University of Swaziland

Department of Computer Science

Supplementary Examination: January 2019

Title of paper   *: Computer programming II*

Course Number   *: CSC213*

Time Allowed   *: Three (3) hours*

This paper may not be opened until permission has been granted by the invigilator

Instructions :

1. Answer all questions.
2. This exam has pages 1 to 3 including the cover page.
3. The Exam user_id, password, tree, context and server name will be provided by the chief invigilator.
4. Submit folder, signed listings of printed programs and report files.
5. Use the last 10 minutes to check your submissions (pseudo codes, file specifications, signed listings of your programs and report files)
6. Read the complete question paper carefully before starting to work on the problem.
7. The names of all your files(project, source file and output files) should have following format

> S------(Project Name)
>
> S------.cpp (Program file)
>
> S------.TXT (data files)

The dashes in file names are six digits of your UNISWA student identity number.

Special requirements:

For each student

1. A networked PC with working C++ system.

2. An accessible secure network disk (F:\) & Printing facility

ANSWER FORMAT:

1. For each function, write (in your answer folder) a description of the input, output a detailed pseudo-code.
2. For each function, write C++ code. Compile and test your code.
3. Provide sufficient comment in your source code.
4. Output from your program must be properly formatted.
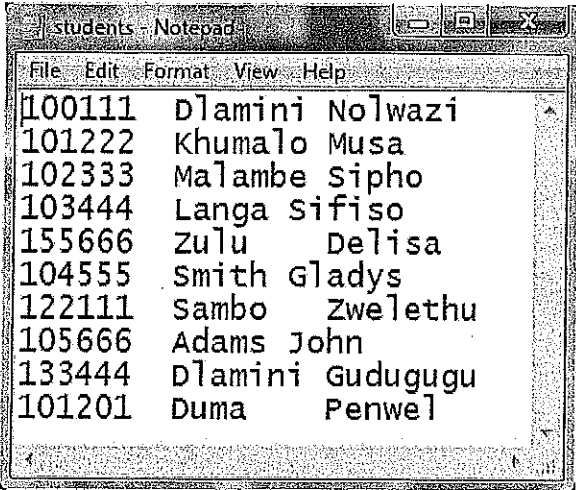
MARKING SCHEME:

Each question will be marked using following scheme: Pseudo code (30 %), Results (20 %), Program (50 %)

PROBLEM:

Write a program that reads student information from a file called **students.txt** and extract corresponding/matching scores/marks (matched using unique student identity number) from a file called **scores.txt**. The program should then write the student identity number, surname, name and the average score for each student to a file called **report.txt**. The figure below shows a sample of each of the three files. For testing purposes, electronic copies of the input files are provided.
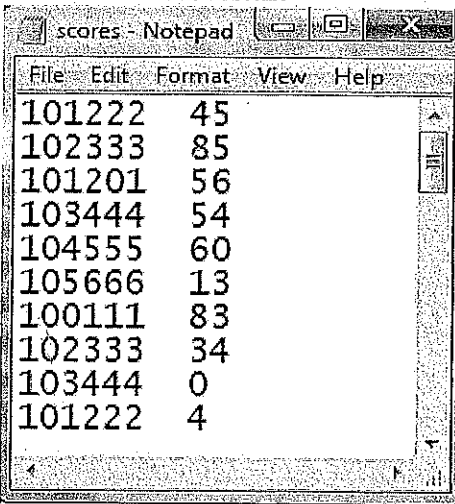
INPUT

students.txt

```
100111    Dlamini  Nolwazi
101222    Khumalo  Musa
102333    Malambe  Sipho
103444    Langa    Sifiso
155666    Zulu     Delisa
104555    Smith    Gladys
122111    Sambo    Zwelethu
105666    Adams    John
133444    Dlamini  Gudugugu
101201    Duma     Penwel
```

scores.txt

```
101222    45
102333    85
101201    56
103444    54
104555    60
105666    13
100111    83
102333    34
103444    0
101222    4
```

OUTPUT

report.txt

```
100111    Dlamini   Nolwazi      56.9
101222    Khumalo   Musa         28.0
102333    Malambe   Sipho        55.0
103444    Langa     Sifiso       41.5
155666    Zulu      Delisa       34.0
104555    Smith     Gladys       49.0
122111    Sambo     Zwelethu     77.0
105666    Adams     John         46.9
133444    Dlamini   Gudugugu     67.0
101201    Duma      Penwel       54.7
```

QUESTION

Write a program that extracts and combines the information from the two input files (**students.txt** and **scores.txt**) and produces the output file (**report.txt**). Write proper pseudo-code for the program.

<center>END OF EXAMINATION</center>