



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

**FACULTY OF COMPUTING AND INFORMATICS
DEPARTMENT OF COMPUTER SCIENCE**

QUALIFICATION: BACHELOR OF COMPUTER SCIENCE, BACHELOR OF COMPUTER SCIENCE IN CYBER SECURITY AND BACHELOR OF INFORMATICS	
QUALIFICATION CODE: 07BACS, 07BCCS, 07BAIF	LEVEL: 5
COURSE: PROGRAMMING 1	COURSE CODE: PRG510S
DATE: JANUARY 2023	PAPER: THEORY
DURATION: 2 HOURS	MARKS: 100

SECOND OPPORTUNITY/SUPPLEMENTARY EXAMINATION QUESTION PAPER	
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INSTRUCTIONS
<ol style="list-style-type: none">1. Answer ALL the questions.2. Read all the questions carefully before answering.3. Number the answers clearly.

THIS QUESTION PAPER CONSISTS OF 4 PAGES
(Excluding this front page)

PERMISSIBLE MATERIALS

1. NON-PROGRAMMABLE CALCULATOR

SECTION A: TRUE OR FALSE

This section consist of 20 questions. Answer all the questions

Each correct answer is allocated 2 Marks

Write True or False for Questions 1 to 20.

1. A number that has a decimal point such as 8.10 is normally declared as Int. [2 Marks]
2. Every Java program requires at least one class . [2 Marks]
3. In VPL elearning, Package statement is Compulsory [2 Marks]
4. Once an Array is declared, the size cannot be changed. [2 Marks]
5. An Array can store only values of the same type [2 Marks]
6. Java program processing always starts main() method [2 Marks]
7. In Java, the identifiers main, Main, and mAin are the same [2 Marks]
8. All computers only understand one language known as machine language [2 Marks]
9. These are valid identifier names: *First_name, mySchool, package* [2 Marks]
10. The statement: $K = L1/N1 * N2$ is the same as $k = L1/n1*n2$ [2 Marks]
11. The output of running: `int a = 10, b=8; b--; System.out.println(a*b);` is 80 [2 Marks]
12. Assembler translates a program written in Assembly language to machine language. [2 Marks]
13. The output of $(8*2)/4-1$ using precedence operator rule is: 3 [2 Marks]
14. In java the statement `count--` is the same as `count=count+1` [2 Marks]
15. Every Java source file must bear the same name with the package and the same name with the public class [2 Marks]
16. Division by 0 or out of range array is an example of exception handling [2 Marks]
17. The result of running this Java code snippet: `int a = 5; a +=2;` is 3 [2 Marks]
18. `< - >` is an operator in Java [2 Marks]
19. In Java, the identifiers student, Student and sTudent are all the same. [2 Marks]
20. Sumsq is a Java keyword [2 Marks]

SECTION B: COPY AND COMPLETE THE TABLE BELOW

Question Number	Data Type	Value	Declarations and assignment	Marks
1		7789.80		[2 Marks]
2		2022		[2 Marks]
3		True		[2 Marks]
4		25		[2 Marks]
5		“This class is dope!!”		[2 Marks]
6		0.02		[2 Marks]

SECTION C: CODE SNIPPET

This section consist of 3 questions. Answer **all** the questions
Each correct answer is allocated 8 Marks

Question One

[8 Marks]

The Java program below (**SimpleInt.java**) calculates simple interest using the formula:
 $Sinterest=(p*r*t)/100$, where sinterest is Simple Interest, p is Principal, r is Rate and t is Time.
p, r, t are read as input from the keyboard.

//SimpleInt.java

```
1. import java.util.Scanner;
2. public class Lab03_D
3. {
4. public static void main(String args[])
5. {
6. int p, r, t, sinterest;
7. Scanner scan = new Scanner(System.in);
8. System.out.print("Enter the Principal : ")
9. p = scan.nextFloat();
10. System.out.print("Enter the Rate of interest : ");
11. r = scan.nextFloat();
12. System.print("Enter the Time period : ");
13. t = scan.nextFloat();
14. scan.close();
15. sinterest = (p * r * t) / 100;
16. System.out.print("Simple Interest is: " + sinterest);
17. }
18. }
```

In the Java program above (**SimpleInt.java**), identify which lines (numbers on the left) have errors and describe the error.

Question Two

[8 Marks]

Giving the program (**example1.java**) below,

1. Explain what the Java program is doing.
2. Give the output of running the program.

//example1.java

```
public class example1 {
    private static Scanner sc;
    public static void main(String[] args)
    {
        int number, i;
        sc = new Scanner(System.in);
        for(i = 1; i <= 11; i = i + 2)
            System.out.print(i + "\t");
    }
}
```


Question Three**[8 Marks]****Rewrite the following piece of code using a for loop.**

```
Public static void display (int [ ] ages) {  
    int index = 0;  
    do {  
        System.out.println(ages[index]);  
        index++;  
    } While (index < ages.lenght);  
}
```

SECTION D: CODING/THEORYAnswer **ALL** questions

Each correct answer is allocated 8 Marks

Question One**One****[8 Marks]**

Write a Java program that computes the areas of 3 circles, giving that:

Area = PR^2 where P = 3.14, R for Radius.

For each circle, the program should accept a number as input from the keyboard as Radius.

The program should display this as Sample Output:

Please Enter Radius: 5

Area = 78.5

[Hint: Area = $3.14*5*5=78.5$]

Please Enter Radius: 9

Area = 254.34

[Hint: Area = $3.14*9*9=254.34$]

Please Enter Radius: 4

Area = 50.24

[Hint: Area = $3.14*4*4=50.24$]*Note that the Hint is not part of the output.***Question Two****[8 Marks]**

Write a Java program that will ask for two integer numbers as input and print out the Addition, Multiplication, Subtraction and Division separated by space.

[Hint: Addition = A+B, Subtraction = A-B, Multiplication = A* B, Division = A/B]

Question Three**[8 Marks]**Write a Java program to sum the square of numbers between two numbers startNo and endNo. You may either use a for statement or any other looping statement in Java. startNo and endNo should be accepted as input from the keyboard.

(a) If startNo is less than 0 then the program should print "startNo cannot be less than 0" and the program will end.

(b) If startNo is greater than endNo then the program should print "startNo must NOT be greater than endNo" and the program will end.

(c) But, if the right numbers (startNo and endNo) are entered ie any two numbers within 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, then the sum of squares of numbers between startNo and endNo will be calculated and the program will printout "Sum of squares of Numbers = " sumSquares.

[Hint: For instance, if you enter 2, 4, then all numbers from 2 to 4 are: 2,3,4 therefore Sumsq = $(2*2)+(3*3)+(4*4)=29$]**THE END**

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2022-10-18

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