Review List (P1)

1- Considering the code written in C language:

#include <stdio.h>

#include <stdlib.h>

int main() { int a; int b = 4; a

= b++; printf("a=%d and

b=%d\n",a,b); return 0;

}

What is the result of executing the code?

a) a=4 and b=4

b) a=4 and b=5

c) a=5 and b=4

d) a=5 and b=5

2. Select the only alternative that correctly indicates the main programming language used to write

the source code of the various versions of Windows: Alternatives

a) Java;

b) Javascript;

c) PHP;

d) C.

3. Select the INCORRECT statement about the C programming language: Alternatives

a) It supports arrays.

b) It does not allow the use of pointers.

c) It is a compiled language. d) It has the boolean data type.

e) It has the struct data type.

4) Write an algorithm in C/C++ that receives 2 integer values x and y, and calculates the value

of z:

$$z = x^2 + y^2$$

5) Do the main logic of the items below:

i Write an algorithm in C/C++ that reads 2 grades of a student, calculates the average and prints

PASS or FAIL (if approved the average must be at least 6.0)

ii Perform the sum of all even rows of an 'm' matrix of size N x N.

6) Using the Queue data structure, create a queue of documents that need to be printed. Each document is

composed of a name and number of sheets to be printed. The program must:

- Queue the documents;

- And following the order, the program must "print" each document, dequeuing it from the queue. 7) Create a function to remove the first N elements from a list. The function should return whether the operation was possible or not. 8) Suppose a stack has 4 values in the following order: 1, 2, 3 and 4. What would be the correct sequence of insertion (I) and deletion (E) operations to obtain the records in the order 2 4 3 1? 9) Describe the Dynamic and Static Allocation Functions? What are the negative and positive points? 10) What is a Record?