

GNG 1106 C
HOME –WORK 1
PROBLEM SET 1

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QUESTION 1,

- 1.** (8, 76)
- 2.** (11, 55)
- 3.** (5, 30)
- 4.** (11, 143)

QUESTION 2,

Yes, the code will run

Since the initial condition in the “if” statement is “0” which evaluates false, thus the program skips the first condition “printf (“ Good Bye World ,”);” and instead executes the condition that follows the “else” statement which is printf (“ if the world ended on December 21 , 2012.\n ”);”

QUESTION 3,

Yes, the code will run

The program executes three equations and sees what the results of that mathematical equation will be.

-in the first one, the computer evaluates the number '3/4' note that non of the numbers in this equation are floats, thus the result is '0' because C ignores any decimal place

- in the second print command the equation is the same but the number in the numerator is converted to a float via adding a '.0' after the 3. Therefore C does not ignore everything after the point and the answer turns out to be 0.75.

-In the final print command C executes the mathematical equation "1+2/3+0.4" note that one of the numbers is a float "0.4" and as a result the final answer will include any number after the dot; final answer will be "1.4"

QUESTION 4,

1-problem: change a numerical grade to its corresponding letter grade

2-gathering information I/o description:

-grades and corresponding letter grade

A+	10	90-100
A	9	85-89
A-	8	80-84
B+	7	75-79

B

6

70-74

C+

5

65-69

C

4

60-64

D+

3

55-59

D

2

50-54

E

1

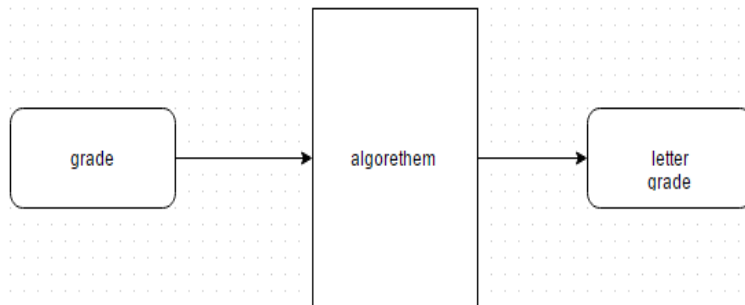
40-49*

F

0

0-39

-I/O description



3- Algorithm

- ask user to enter number grade
- detects corresponding letter grade
- detects if letter grade is pass/fail
- prints letter grade and if passed or failed
- ends program

4- Code and test case

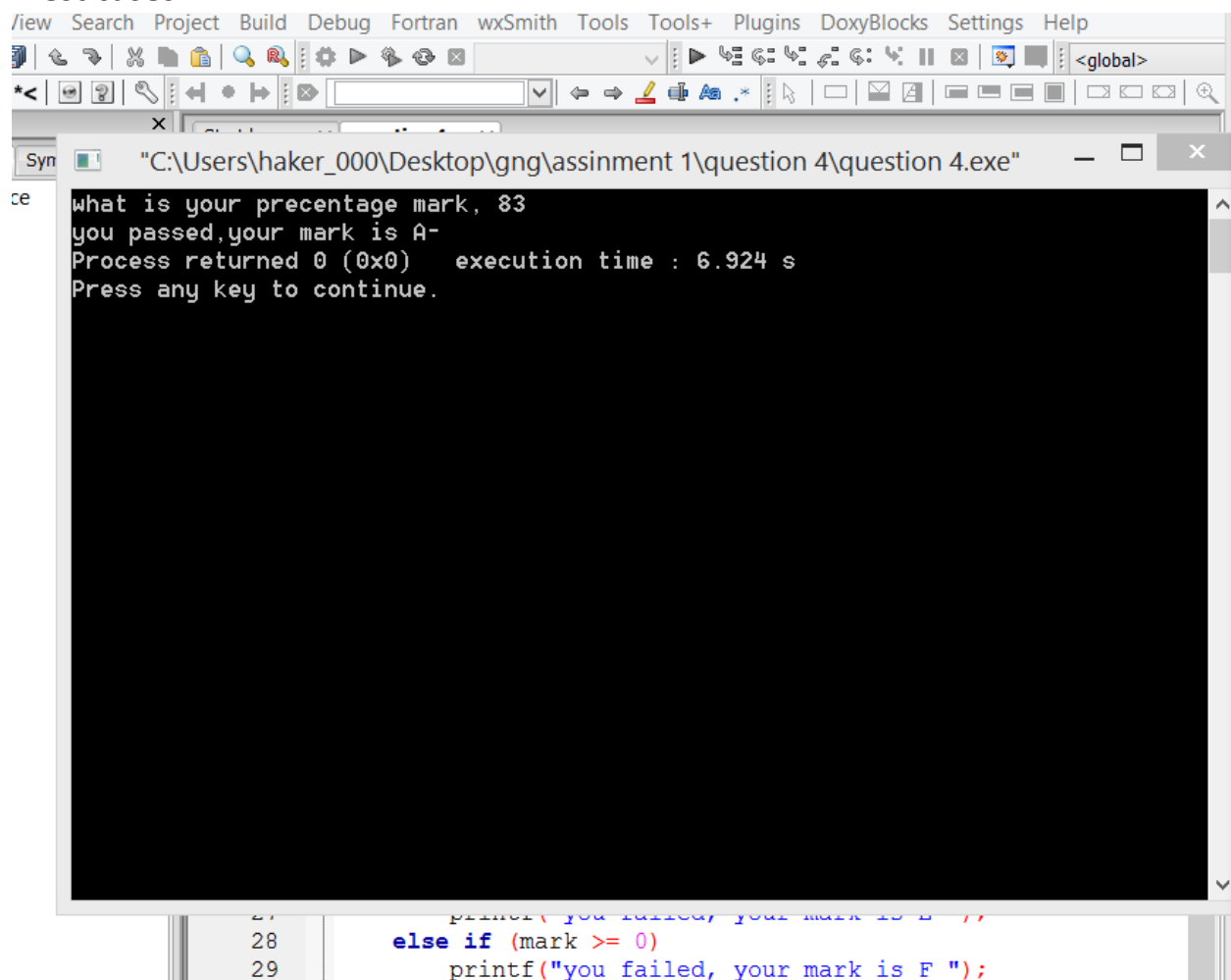
-Code:

```
#include<stdio.h>

int main()
{
    float mark;
    printf("what is your precentage mark, ");
    scanf("%f", &mark);
    if (mark >= 90)
        printf("you passed,your mark is A+ ");
    else if (mark >= 85)
        printf("you passed,your mark is A ");
    else if (mark >= 80)
        printf("you passed,your mark is A- ");
    else if (mark >= 75)
        printf("you passed,your mark is B+ ");
    else if (mark >= 70)
        printf("you passed,your mark is B ");
    else if (mark >= 65)
        printf("you passed,your mark is C+ ");
    else if (mark >= 60)
        printf("you passed,your mark is C ");
    else if (mark >= 55)
        printf("you passed,your mark is D+ ");
```

```
else if (mark >= 50)
    printf("you passed,your mark is D ");
else if (mark >= 40)
    printf("you failed, your mark is E ");
else if (mark >= 0)
    printf("you failed, your mark is F ");
return(0);
}
```

-Test cases:



```
ce
what is your precentage mark, 83
you passed,your mark is A-
Process returned 0 (0x0) execution time : 6.924 s
Press any key to continue.

27
28     else if (mark >= 0)
29         printf("you failed, your mark is F ");
```

```
"C:\Users\haker_000\Desktop\gng\assinment 1\question 4\question 4.exe"
what is your precentage mark, 50
you passed,your mark is D
Process returned 0 (0x0)   execution time : 3.622 s
Press any key to continue.
```

The image shows a screenshot of a Windows environment. At the top, a web browser window is open with the address bar showing "question 4.c" and a code editor displaying "#include<stdio.h>". Below the browser, a command prompt window titled "C:\Users\haker_000\Desktop\gng\assinment 1\question 4\question 4.exe" is running. The command prompt displays the following text: "what is your precentage mark, 49.9", "you failed, your mark is E", "Process returned 0 (0x0) execution time : 5.989 s", and "Press any key to continue.". Below the command prompt, a code editor shows two lines of C code: line 29: "printf("you failed, your mark is F ");" and line 30: (partially visible).

```
what is your precentage mark, 49.9
you failed, your mark is E
Process returned 0 (0x0) execution time : 5.989 s
Press any key to continue.

29 printf("you failed, your mark is F ");
30
```