**Assignment Policy:**

1. Late assignments will NOT be accepted.

2. Cheating is forbidden in this course and will be considered a -10 mark.

3. All assignments must be keyboarded (handwritten work will NOT be accepted).

4. Assignments should be stapled and placed in an unsealed envelope.

5. You should add the cover page that has your full information to your answers sheet.

Substantial departures from the above guidelines will NOT be graded.

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**1- Categorize each of the following items as either hardware or software by checking ✔ under the right column:**

|  |  |  |
| --- | --- | --- |
| **Item** | **Hardware** | **Software** |
| ALU |  |  |
| Speakers |  |  |
| CPU |  |  |
| Editor |  |  |
| Operating System |  |  |
| RAM |  |  |
| Word Processor |  |  |
| Motherboard |  |  |

**2- Fill in the blanks in each of the following statements:**

a) In a C program, statements that begin with the symbol # are called \_\_\_\_ directives.

b) A C program file must end with the \_\_\_\_ file extension.

c) A C program normally go through six steps \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_ , and \_\_\_\_.

d) The logical unit of the computer that receives information from outside the computer for use by the computer is the \_\_\_\_.

e) The \_\_\_\_ program translates instructions written in high-level languages into machine code.

f) \_\_\_\_ and \_\_\_\_ are logical units of the computer that retain information.

g) The \_\_\_\_ program loads an executable program to the main memory.

­­­­­h) The escape sequence \_\_\_\_ move the cursor to the next tab stop.

**3- Decide whether the following sentences are true or false, and correct the false statements if there is any:**

a) Processing units are considered as computer software.

b) In a C code, every statement must end with a comma.

c) Printer and Web Cam are examples of computer output devices.

d) Information stored in main memory must be transferred to some other device for permanent storage.

e) When you compile your program, the compiler identifies the logical errors and suggests how to correct them.

f) The Arithmetic Logical Unit is a logical unit of the computer that coordinates the activities of all the other logical units.

g) /\* ... \*/ comment is considered as a valid way to write a C code comment

h) printf is an example of a function that you create by yourself.

**4- Which of the following are valid C identifiers? If not explain why**

|  |  |  |
| --- | --- | --- |
| **Identifier** | **Validity** | **Reasons of Invalidity** |
| tutorial1 |  |  |
| first\_lecture |  |  |
| Asma’s\_Bag |  |  |
| Course Blog |  |  |
| 3rd\_floor |  |  |
| phoneNumber |  |  |

**5- Write C statements that accomplish the following: (Note: Declare means define)**

- Declare a variable of type int called ID.

- Initialize a double variable salary to 400.35 and a char variable letter to 'L'.

- Declare and initialize a constant int variable length to 8.

- Declare a char variable gender and set its value to 'F'.

- Print the integer value of the variable max.

- Read from the user the value of a double variable called salary.

- Prompt the user a message to ask her to enter her age.

- Print the values of the following variables in a single statement: age as an int in 6 columns such that it is left justified; salary as a double in 6 columns with an accuracy of 2 digits after the decimal point; and gender as a char in the same statement.

**6- Find the errors in the following code and correct them:**

|  |  |  |
| --- | --- | --- |
| **Code** | **Error** | **Correction** |
| #include <stdio> |  |  |
| int Main (void) |  |  |
| { |  |  |
| /\* find the |  |  |
| errors /\* |  |  |
| doble weight=50.4; |  |  |
| int 2age=22; |  |  |
| char gender; |  |  |
| printf(“Please Enter your gender type: M or F? ”); |  |  |
| scanf(“%c\n”, gender); |  |  |
| print(“ Your weight is: /f”, weight); |  |  |
| printf(‘ Your age is: %d’, 2age), |  |  |
| printf(“ Your gender is: %d”, gender); |  |  |
| } |  |  |

**7- Write down the output of the following programs: (Note: represent each space with a ~)**

#include<stdio.h>

int main( void )

{

int max=26;

int min = 3;

printf(" The result of dividing %d by %d is equal to %d \n",max, min, max/min);

printf(" The remainder from dividing %d by %d is equal to %d \n",max, min, max%min);

}

**Output:**

#include<stdio.h>

int main( void )

{

int quiz=3;

double mid=14.765;

printf("Quiz mark:%3d\n", quiz);

printf("Mid mark:%-5.1fout of 15", mid);

}

**Output:**

#include<stdio.h>

int main( void )

{

int num1=20;

int num2= 40;

int num3= 20;

printf("Value of %d > %d is %d",num1,num2,num1> num2);

printf("Value of %d >=%d is %d",num1,num3,num1>=num3);

printf("Value of %d != %d is %d",num1,num3,num1!=num2);

}

**Output:**

**8- If x = 3, y = 12, z = 6, evaluate each of the following expressions: (Note: show the steps)**

- (x + y) % z

- y + z \* x

- x \* (x - z) + y

- (y + z) + y / x

**9- Write a program that gets a distance in miles and converts it to kilometers knowing that 1 Km= 1.609 miles. Use the last number as a conversion constant.**