**In class Exercise – 4/11/2019 – Due on or before Sunday 4/14 by midnight**

**Objective: Type 1 and type 2 functions (not returning value functions)**

|  |
| --- |
| **Important instructions:**   * *All programs must include comments at the top of your program: your name,* the class name (CSIT 575)*, program name and* ***the program description (purpose of the program).*** * *Copy and paste your* ***program code*** *and* ***output*** *in Part B of each program. Note: Use snipping tool to snip the output.* * *Once it is done, save and submit this word file via Canvas.* |

**1. grosspay.cpp**

Write a program that asks the user to enter hourly pay and worked hours. The program will then calculate gross pay using the following function prototypes:

* **void printDescription();** //should display a program description.
* **void calPayCheck(float, int);** // computes and outputs gross pay.

**Sample run:**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**This program takes two numbers (pay rate and hours)**

**and outputs gross pay.**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**Please input the pay per hour: 15**

**Please input the number of hours worked: 20**

**The pay is $300**

**We hope you enjoyed this program.**

**Part B: Copy and paste your program (source) code and the outputs after this line**

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CO SCI 575

grosspay.cpp

This program calculates your gross pay by multiplying

your pay per hour and hours worked.\*/

#include <iostream>

using namespace std;

void printDescription();

void calPayCheck(float PPH, int HW);

int main()

{

   int inputPPH; //Pay per hour

   int inputHW; //hours worked

   printDescription();

   cout << "Please input the pay per hour: ";

   cin >> inputPPH;

   cout << "\nPlease input the number of hours worked: ";

   cin >> inputHW;

   calPayCheck(inputPPH, inputHW);

   system("pause");

   return 0;

}

void printDescription()

{

   cout << "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*" << endl;

   cout << "This program takes two numbers (pay rate and hours)" << endl;

   cout << "and outputs gross pay." << endl;

   cout << "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*" << endl;

}

void calPayCheck(float PPH, int HW)

{

   cout << "\nThe pay is: $" << (PPH \* HW);

   cout << "\nWe hope you enjoyed this program." << endl;

}

**OUTPUT 1:**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**This program takes two numbers (pay rate and hours)**

**and outputs gross pay.**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**Please input the pay per hour: 56**

**Please input the number of hours worked: 34**

**The pay is: $1904**

**We hope you enjoyed this program.**

**Press any key to continue . . .**

**OUTPUT 2:**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**This program takes two numbers (pay rate and hours)**

**and outputs gross pay.**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**Please input the pay per hour: 3456**

**Please input the number of hours worked: 45**

**The pay is: $155520**

**We hope you enjoyed this program.**

**Press any key to continue . . .**

**2. displaycharacter.cpp**

Write a program that asks the user to enter a character and the number of times to display that character. Write a function to display the character on the screen.

Function prototype:

* **void num\_chars(char, int);** //to display the character on the screen.
* **void process(char);** // ask the user how many times to display character; call function num\_chars(char, int); and handle the loop.

**Sample run:**

**Enter a character: &**

**How many times would you want to display character &? 5**

**& & & & &**

**Enter another character or press the q-key to quit: q**

**Bye**

**Part B: Copy and paste your program (source) code and the outputs after this line**

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displaycharacter.cpp

This program repeats a character chosen by a user and repeated

how ever many times the user wants\*/

#include <iostream>

using namespace std;

void n\_chars(char, int);

void process(char);

int main()

{

//input

char inputCharacter;

cout << "Enter a character: ";

cin >> inputCharacter;

process(inputCharacter);

while (inputCharacter != 'q')

{

cout << "\nEnter another character or press the q-key to quit: ";

cin >> inputCharacter;

if (inputCharacter == 'q')

{

cout << "Bye" << endl;

system("pause");

return 0;

}

process(inputCharacter);

}

}

void n\_chars(char Character, int Times)

{

//loop and output

for (int i = 1; i <= Times; i++)

{

cout << Character;

}

}

void process(char Character)

{

//input and processing, calls on n\_chars for looping

int inputTimes;

int Char;

cout << "How many times would you want to display character " << Character << "?";

cin >> inputTimes;

n\_chars(Character, inputTimes);

}

**OUTPUT 1: Enter a character: %**

**How many times would you want to display character %?3**

**%%%**

**Enter another character or press the q-key to quit: &**

**How many times would you want to display character &?5**

**&&&&&**

**Enter another character or press the q-key to quit: q**

**Bye**

**Press any key to continue . . .**

**OUTPUT 2:**

**Enter a character: @**

**How many times would you want to display character @?5**

**@@@@@**

**Enter another character or press the q-key to quit: ^**

**How many times would you want to display character ^?10**

**^^^^^^^^^^**

**Enter another character or press the q-key to quit: q**

**Bye**

**Press any key to continue . . .**