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Assignment 2

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Problem 1:

Build a number-guessing game that uses input validation (isdigit() function) to verify that the user has entered a digit and not a nondigit (letter). Store a random number between 1 and 10 into a variable each time the program is run. Prompt the user to guess a number between 1 and 10 and alert the user if he was correct or not.

Output:
-Correct Guess:

```
Ace:Assignment 2 A$ ./1

I'm thinking of a number between 1 and 10. Enter your best guess:
10

Correct! The number is 10
Ace:Assignment 2 A$
```

-Incorrect Guess:

```
Ace:Assignment 2 A$ ./1

I'm thinking of a number between 1 and 10. Enter your best guess:
2

Sorry, that's incorrect. The number is 4
Ace:Assignment 2 A$
```

-Invalid Input:

```
Ace:Assignment 2 A$ ./1

I'm thinking of a number between 1 and 10. Enter your best guess:
11

Please enter an appropriate guess.
Ace:Assignment 2 A$ ./1

I'm thinking of a number between 1 and 10. Enter your best guess:
cr

Please enter an appropriate guess.
Ace:Assignment 2 A$
```

Problem 2:

Create a counting program that counts backward from 100 to 1 in increments of 10.

Output:

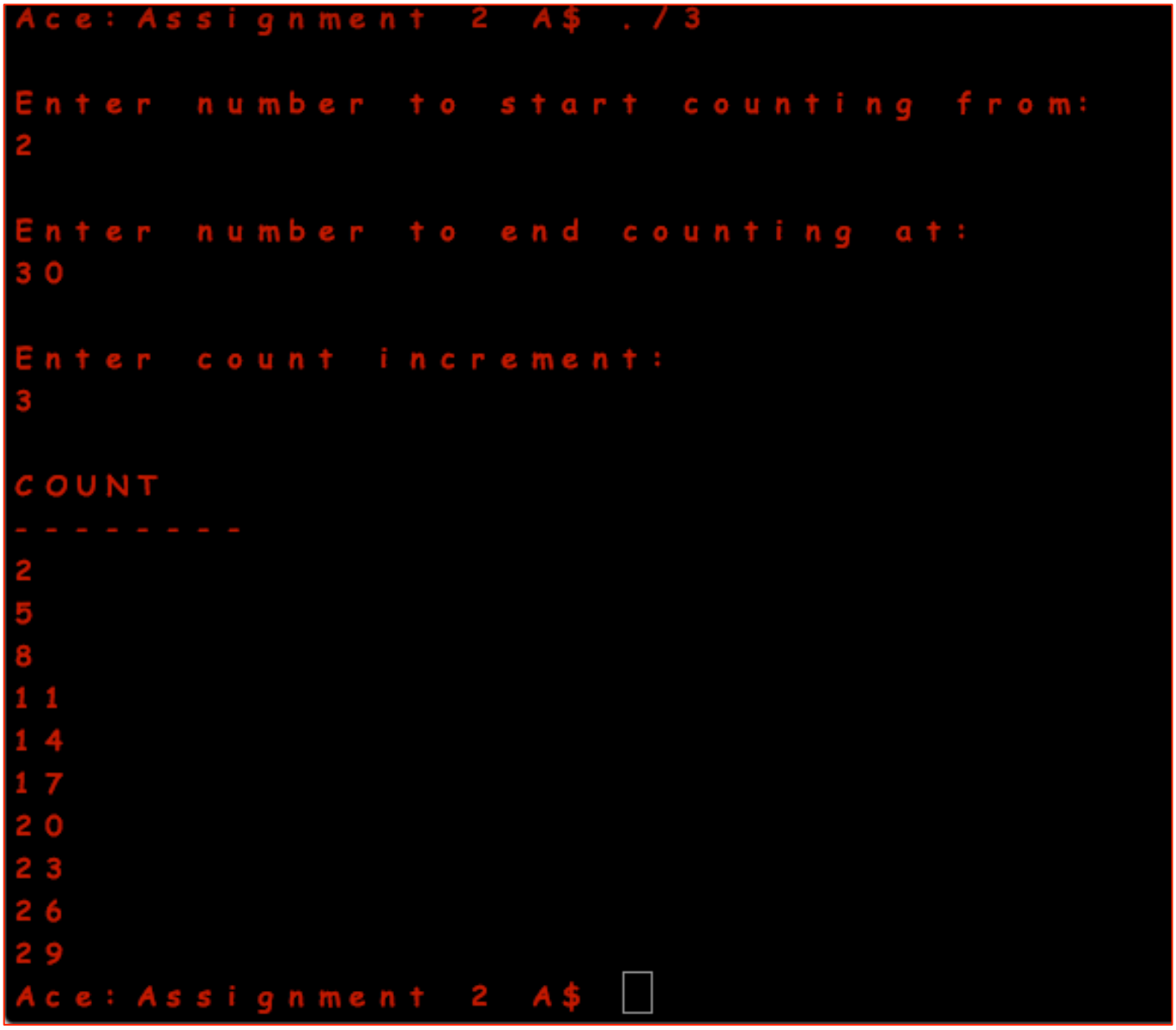
*Note: The final value is 10 and not 1 as specified in the problem because the next increment of 10 would equal 0.

Problem 3:

Create a counting program that prompts the user for three inputs (shown next) that determine how and what to count. Store the user's answers in variables. Use the acquired data to build your counting program with a for loop and display the results to the user:

-Beginning number to start counting from
-Ending number to stop counting at
-Increment number

Output:



Problem 4:

Write a function prototype for the following components:
-A function that divides two numbers and returns the remainder.
-A function that finds the larger of two numbers and returns the result.
-A function that prints an ATM menu-it receives no parameters and returns no value.

Output:

```
//Function prototype for the following:

//A function that divides two numbers and returns the remainder.
int remain(int, int);

//A function that finds the larger of two numbers and returns the result.
double greater(double, double);

//A function that prints an ATM menu- it receives no parameters and returns no value.
void ATM(void);
```

*Note: There is no output because the presented prototypes are not yet defined.

Problem 5:

Build the function definitions for each preceding function prototype. Call each of the three functions in the main function.

Output:

```
Ace:Assignment 2 A$ ./5

Enter two integers in the form a,b to find their remainder: 4,19

Enter two numbers in the form c,d to find which is larger: 32,65

Remain function output
------------------------------

The remainder of the larger int/smaller int is: 3

Greater function output
------------------------------

The larger value is:  65.00

ATM function output
------------------------------

                Welcome to Goliath Bank ATM Service!
                Please select from the options below:
1) Fast Cash                                    2) Withdrawal
3) Transfer                                     4) Deposit
5) Account Inquiry                              6) Change Language
```