Homework 4: Program Trace

## Check out this “instructional” video on decoding strings - <http://www.youtube.com/watch?v=zdA__2tKoIU>

## Determine the output of the program below. You will receive no credit for a submission that shows no work. You must make variable tables and show how the values of the variables change as the program executes.

#include <iostream>

#include <string>

using namespace std;

string makeWord(int num [], int total)

{

string alpha = "abcdefghijklmnopqrstuvwxyz";

string returnWord = "";

for (int i = 0; i < total; i++)

returnWord = returnWord + alpha[num[i]];

return returnWord;

}

void fillArray(int numbers [], int set)

{

if (set == 0)

{ numbers[0] = 19;

numbers[1] = 17;

numbers[2] = 8;

numbers[3] = 2;

numbers[4] = 10;

numbers[5] = numbers[6] = 24;

}

else

{ numbers[2] = 4;

numbers[3]--;

numbers[3]--;

numbers[4] = numbers[0];

}

}

int getNum(int& numbers)

{

int i = numbers \* 100 - (10 % 3);

numbers++;

return i;

numbers--;

}

int main()

{

int numbers[7];

for (int i = 0; i < 3; i++)

{

fillArray(numbers, i);

cout << makeWord(numbers, 5);

if (getNum(i) < 0)

cout << " or ";

else

cout << "!\n";

}

}

# Variable Table Example

### Main function

|  |  |  |  |
| --- | --- | --- | --- |
| i loop counter | Numbers | makeWord return value | getNum return value |
| 0 |  |  |  |
| 1 |  |  |  |
| 2 |  |  |  |

### fillArray function

|  |  |
| --- | --- |
| set | Numbers |
| 0 |  |
| 1 |  |
|  |  |

### makeWord function

|  |  |  |
| --- | --- | --- |
| i loop counter | Num[i] | Return word |
| 0 |  |  |
| 1 |  |  |
| 2 |  |  |
|  |  |  |
|  |  |  |