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//Class - 439 Sp 2018

//Menu and Functions

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Program containing a menu and functions

which print out different number patterns

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// menu and functions.cpp : main project file.

#include "stdafx.h"

#include <iostream>

using namespace System;

using namespace std;

void menu();

void pattern1();

void pattern2();

void pattern3();

void pattern4();

void pattern5();

void pattern6();

void pattern7();

void pattern8();

void pattern9();

void pattern10();

int main(){

char input;

while(input != 'q'){

system("color f0");

system("cls");

menu();

printf("\n\nEnter to return to return to menu or q to exit: ");

scanf("%c");

scanf("%c",&input);

}

printf("Program is now exiting...\n\n");

system("pause");

return 0;

}

void menu(){

int select;

printf("Printing number pattern menu\n");

printf("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n");

printf("Pattern 1: 1 through 20 printed 5x4\n");

printf("Pattern 2: 9 through 1 printed 3x3\n");

printf("Pattern 3: 1 through 3 printed 3x3\n");

printf("Pattern 4: 1 through 5 ascending\n");

printf("Pattern 5: 5 through 1 ascending\n");

printf("Pattern 6: 8 to 0, even, ascending\n");

printf("Pattern 7: 1 through 5 descending\n");

printf("Pattern 8: 5 through 0 descending\n");

printf("Pattern 9: 9,6,3 descending\n");

printf("Pattern 10: 1 through 5 descending/descending\n");

printf("\nEnter pattern to print: ");

scanf("%d", &select);

printf("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

printf("\n\n");

if(select > 10){

printf("Select a pattern between 1-10\n");

}

//control transfer to selected pattern(function) to print

switch(select){

case 1:

pattern1();

break;

case 2:

pattern2();

break;

case 3:

pattern3();

break;

case 4:

pattern4();

break;

case 5:

pattern5();

break;

case 6:

pattern6();

break;

case 7:

pattern7();

break;

case 8:

pattern8();

break;

case 9:

pattern9();

break;

case 10:

pattern10();

break;

}

}

// 1 of 10

void pattern1(){

int i,j;

int countA=1;

for(i=0; i<4; i++){

for(j=0; j<5; j++){

printf("%d ",countA);

countA++;

}

printf("\n");

}

return;

}

// 2 of 10

void pattern2(){

int i,j;

int countB=9;

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

for(j=0; j<3; j++){

printf("%d ",countB);

countB--;

}

printf("\n");

}

return;

}

// 3 of 10

void pattern3(){

int i,j;

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

int countC=1;

for(j=0; j<3; j++){

printf("%d ",countC);

countC++;

}

printf("\n");

}

}

// 4 of 10

void pattern4(){

int i,j;

for(i=1; i<=5; i++){

for(j=1; j<=i;j++){

printf("%d ",i);

}

printf("\n");

}

}

// 5 of 10

void pattern5(){

int i,j;

for(i=5; i>=1; i--){

for(j=5; j>=i; j--){

printf("%d ",i);

}

printf("\n");

}

}

// 6 of 10

void pattern6(){

int i,j;

for(i=8; i>=0; i-=2){

for(j=8; j>=i; j-=2){

printf("%d ",i);

}

printf("\n");

}

}

// 7 of 10

void pattern7(){

int i,j;

for(i=1; i<=5; i++){

for(j=i; j<=5;j++){

printf("%d ",i);

}

printf("\n");

}

}

// 8 of 10

void pattern8(){

int i,j;

for(i=5; i>=0; i--){

for(j=0; j<=i;j++){

printf("%d ",i);

}

printf("\n");

}

}

// 9 of 10

void pattern9(){

int i,j;

int n=3;

for(i=9; i>=3; i-=3){

for(j=n; j>0; j--){

printf("%d ",i);

}

printf("\n");

n--;

}

}

// 10 of 10

void pattern10(){

int i,j,n;

n=5;

for(i=5; i>=1; i--){

for(j=1; j<=n; j++){

printf("%d ", j);

}

printf("\n");

n--;

}

}



