**บทที่ 5**

**โค้ดการทำ Project**

**#include <stdio.h>**

**#include <conio.h>**

**#include <math.h>**

**#include <stdlib.h>**

**#include <windows.h>**

**#define PI 3.14159265**

**#define PCT 100**

**//system("cls");**

**//system("COLOR xx");**

**int loop\_choice;**

**float a, b, z;**

**void f\_arith(){**

**loop\_choice = 2;**

**int arith\_choice;**

**while(loop\_choice==2){**

**a=0, b=0, z=0;**

**system("COLOR 0a");**

**printf("\n\t\t\t>>\aArithmetic Operations<<\n");**

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

**printf("\t\t\t1.ADD PROGRAM [+]\n");**

**printf("\t\t\t2.MINUS PROGRAM [-]\n");**

**printf("\t\t\t3.MULTIPLE PROGRAM [\*]\n");**

**printf("\t\t\t4.DIVIDE PROGRAM [/]\n");**

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

**printf("\t\t\tEnter your choice [1-4] : ");**

**scanf("%d", &arith\_choice);**

**switch(arith\_choice){**

**case 1 : { printf("\t\t\t\aEnter A value : ");**

**scanf("%f", &a);**

**printf("\t\t\t\aEnter B value : ");**

**scanf("%f", &b);**

**z = a + b;**

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

**printf("\t\t\t\aValue %.2f + %.2f = %.2f ", a, b, z);**

**} break;**

**case 2 : { printf("\t\t\t\aEnter A value : ");**

**scanf("%f", &a);**

**printf("\t\t\t\aEnter B value : ");**

**scanf("%f", &b);**

**z = a - b;**

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

**printf("\t\t\t\aValue %.2f - %.2f = %.2f ", a, b, z);**

**} break;**

**case 3 : { printf("\t\t\t\aEnter A value : ");**

**scanf("%f", &a);**

**printf("\t\t\t\aEnter B value : ");**

**scanf("%f", &b);**

**z = a \* b;**

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

**printf("\t\t\t\aValue %.2f \* %.2f = %.2f ", a, b, z);**

**} break;**

**case 4 : { printf("\t\t\t\aEnter A value : ");**

**scanf("%f", &a);**

**printf("\t\t\t\aEnter B value : ");**

**scanf("%f", &b);**

**z = a / b;**

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

**printf("\t\t\t\aValue %.2f / %.2f = %.2f ", a, b, z);**

**} break;**

**default : printf("\n\t\t\t\aError!!! Enter your choice again.");**

**}**

**printf("\n\n\t\t\tDo you want to back to main menu ?");**

**printf("\n\n\t\t\tPress 1.Yes Press 2.No Press 3.Exit : ");**

**scanf("%d", &loop\_choice);**

**system("cls");**

**}**

**}**

**void f\_power(){**

**loop\_choice = 2;**

**int power\_choice;**

**while(loop\_choice==2){**

**a=0, b=0, z=0;**

**system("COLOR 0b");**

**printf("\n\t\t\t>>\aPower and Root Functions<<\n");**

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

**printf("\t\t\t1.POWER PROGRAM \n");**

**printf("\t\t\t2.ROOT PROGRAM \n");**

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

**printf("\t\t\tEnter your choice [1-2] : ");**

**scanf("%d", &power\_choice);**

**switch(power\_choice){**

**case 1 : { printf("\t\t\t\aEnter A value : ");**

**scanf("%f", &a);**

**printf("\t\t\t\aEnter B value : ");**

**scanf("%f", &b);**

**z = pow(a, b);**

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

**printf("\t\t\t\aValue %.2f ^ %.2f = %.2f ", a, b, z);**

**} break;**

**case 2 : { printf("\t\t\t\aEnter Radical : ");**

**scanf("%f", &a);**

**printf("\t\t\t\aEnter value to find root : ");**

**scanf("%f", &b);**

**z = pow(b, 1.0/a);**

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

**printf("\t\t\t\aRoot %.2f of %.2f = %.2f ", a, b, z);**

**} break;**

**default : printf("\n\t\t\t\aError!!! Enter your choice again.");**

**}**

**printf("\n\n\t\t\tDo you want to back to main menu ?");**

**printf("\n\n\t\t\tPress 1.Yes Press 2.No Press 3.Exit : ");**

**scanf("%d", &loop\_choice);**

**system("cls");**

**}**

**}**

**void f\_tri(){**

**loop\_choice = 2;**

**int tri\_choice;**

**while(loop\_choice==2){**

**a=0, b=0, z=0;**

**system("COLOR 0c");**

**printf("\n\t\t\t>>\aTrigonometric Functions<<\n");**

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

**printf("\t\t\t1.SIN PROGRAM \n");**

**printf("\t\t\t2.COS PROGRAM \n");**

**printf("\t\t\t3.TAN PROGRAM \n");**

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

**printf("\t\t\tEnter your choice [1-3] : ");**

**scanf("%d", &tri\_choice);**

**switch(tri\_choice){**

**case 1 : { printf("\t\t\t\aEnter value to SIN : ");**

**scanf("%f", &a);**

**z = sin(a\*PI/180);**

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

**printf("\t\t\t\aValue %.2f SIN = %.2f ", a, z);**

**} break;**

**case 2 : { printf("\t\t\t\aEnter value to COS : ");**

**scanf("%f", &a);**

**z = cos(a\*PI/180);**

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

**printf("\t\t\t\aValue %.2f COS = %.2f ", a, z);**

**} break;**

**case 3 : { printf("\t\t\t\aEnter value to TAN : ");**

**scanf("%f", &a);**

**z = tan(a\*PI/180);**

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

**printf("\t\t\t\aValue %.2f TAN = %.2f ", a, z);**

**} break;**

**default : printf("\n\t\t\t\aError!!! Enter your choice again.");**

**}**

**printf("\n\n\t\t\tDo you want to back to main menu ?");**

**printf("\n\n\t\t\tPress 1.Yes Press 2.No Press 3.Exit : ");**

**scanf("%d", &loop\_choice);**

**system("cls");**

**}**

**}**

**void f\_hyper(){**

**loop\_choice = 2;**

**int hyper\_choice;**

**while(loop\_choice==2){**

**a=0, b=0, z=0;**

**system("COLOR 0d");**

**printf("\n\t\t\t>>\aHyperbolic Function<<\n");**

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

**printf("\t\t\t1.SINH PROGRAM \n");**

**printf("\t\t\t2.COSH PROGRAM \n");**

**printf("\t\t\t3.TANH PROGRAM \n");**

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

**printf("\t\t\tEnter your choice [1-3] : ");**

**scanf("%d", &hyper\_choice);**

**switch(hyper\_choice){**

**case 1 : { printf("\t\t\t\aEnter the angle in radians : ");**

**scanf("%f", &a);**

**z = sinh(a);**

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

**printf("\t\t\t\aHyperbolic Sine of %.2f (in radian) = %.2f ", a, z);**

**} break;**

**case 2 : { printf("\t\t\t\aEnter the angle in radians : ");**

**scanf("%f", &a);**

**z = cosh(a);**

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

**printf("\t\t\t\aHyperbolic Cosine of %.2f (in radian) = %.2f ", a, z);**

**} break;**

**case 3 : { printf("\t\t\t\aEnter the angle in radians : ");**

**scanf("%f", &a);**

**z = tanh(a);**

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

**printf("\t\t\t\aHyperbolic Tangent of %.2f (in radian) = %.2f ", a, z);**

**} break;**

**default : printf("\n\t\t\t\aError!!! Enter your choice again.");**

**}**

**printf("\n\n\t\t\tDo you want to back to main menu ?");**

**printf("\n\n\t\t\tPress 1.Yes Press 2.No Press 3.Exit : ");**

**scanf("%d", &loop\_choice);**

**system("cls");**

**}**

**}**

**void f\_log(){**

**loop\_choice = 2;**

**int log\_choice;**

**while(loop\_choice==2){**

**a=0, b=0, z=0;**

**system("COLOR 0e");**

**printf("\n\t\t\t>>\aLogarithmic Functions<<\n");**

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

**printf("\t\t\t1.NATURAL LOGARITHM PROGRAM \n");**

**printf("\t\t\t2.COMMON (BASE-2) LOGARITHM PROGRAM \n");**

**printf("\t\t\t3.COMMON (BASE-10) LOGARITHM PROGRAM \n");**

**printf("\t\t\t4.COMMON (log1p) LOGARITHM PROGRAM \n");**

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

**printf("\t\t\tEnter your choice [1-4] : ");**

**scanf("%d", &log\_choice);**

**switch(log\_choice){**

**case 1 : { printf("\t\t\t\aEnter value to NATURAL LOGARITHM : ");**

**scanf("%f", &a);**

**z = log(a);**

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

**printf("\t\t\t\aValue %.2f convert to NATURAL LOGARITHM = %.2f ", a, z);**

**} break;**

**case 2 : { printf("\t\t\t\aEnter value to BASE-2 LOGARITHM : ");**

**scanf("%f", &a);**

**z = log2(a);**

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

**printf("\t\t\t\aValue %.2f convert to BASE-2 LOGARITHM = %.2f ", a, z);**

**} break;**

**case 3 : { printf("\t\t\t\aEnter value to BASE-10 LOGARITHM : ");**

**scanf("%f", &a);**

**z = log10(a);**

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

**printf("\t\t\t\aValue %.2f convert to BASE-10 LOGARITHM = %.2f ", a, z);**

**}break;**

**case 4 : { printf("\t\t\t\aCOMMON (log1p) LOGARITHM PROGRAM : ");**

**scanf("%f", &a);**

**z = log1p(a);**

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

**printf("\t\t\t\aValue %.2f convert to (log1p) LOGARITHM = %.2f ", a, z);**

**} break;**

**default : printf("\n\t\t\t\aError!!! Enter your choice again.");**

**}**

**printf("\n\n\t\t\tDo you want to back to main menu ?");**

**printf("\n\n\t\t\tPress 1.Yes Press 2.No Press 3.Exit : ");**

**scanf("%d", &loop\_choice);**

**system("cls");**

**}**

**}**

**void f\_oth(){**

**loop\_choice = 2;**

**int oth\_choice;**

**while(loop\_choice==2){**

**a=0, b=0, z=0;**

**system("COLOR 0f");**

**printf("\n\t\t\t>>\aOther Functions<<\n");**

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

**printf("\t\t\t1.MODULUS FINDER \n");**

**printf("\t\t\t2.PERCENTAGE FINDER \n");**

**printf("\t\t\t3.CIRCLE AREA FINDER \n");**

**printf("\t\t\t4.CIRCLE DIAMETER FINDER \n");**

**printf("\t\t\t5.CIRCUMFERENCE FINDER \n");**

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

**printf("\t\t\tEnter your choice [1-5] : ");**

**scanf("%d", &oth\_choice);**

**switch(oth\_choice){**

**case 1 : { printf("\t\t\t\aEnter value to find modulus(x) : ");**

**scanf("%f", &a);**

**printf("\t\t\t\aEnter value to find modulus(y) : ");**

**scanf("%f", &b);**

**z = fmod(a, b);**

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

**printf("\t\t\t\aValue %.2f modulus %.2f = %.2f", a, b, z);**

**} break;**

**case 2 : { printf("\t\t\t\aEnter number to find percentage : ");**

**scanf("%f", &a);**

**printf("\t\t\t\aEnter percentage to find value of number : ");**

**scanf("%f", &b);**

**z = (a\*b)/PCT;**

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

**printf("\t\t\t\a%.2f percentage of %.2f = %.2f", b, a, z);**

**} break;**

**case 3 : { printf("\t\t\t\aEnter radius to find circle area : ");**

**scanf("%f", &a);**

**z = PI\*(a\*a);**

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

**printf("\t\t\t\aRadius %.2f, Circle area = %.2f ", a, z);**

**} break;**

**case 4 : { printf("\t\t\t\aEnter radius to find circle diameter : ");**

**scanf("%f", &a);**

**z = a\*2;**

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

**printf("\t\t\t\aRadius %.2f, Circle diameter = %.2f ", a, z);**

**} break;**

**case 5 : { printf("\t\t\t\aEnter radius to find circumference : ");**

**scanf("%f", &a);**

**z = 2\*(PI\*a);**

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

**printf("\t\t\t\aRadius %.2f, Circumference = %.2f ", a, z);**

**} break;**

**default : printf("\n\t\t\t\aError!!! Enter your choice again.");**

**}**

**printf("\n\n\t\t\tDo you want to back to main menu ?");**

**printf("\n\n\t\t\tPress 1.Yes Press 2.No Press 3.Exit : ");**

**scanf("%d", &loop\_choice);**

**system("cls");**

**}**

**}**

**main(){**

**int main\_choice;**

**int colr\_loop;**

**loop\_choice = 1;**

**for(colr\_loop=0;colr\_loop<=5;colr\_loop++){**

**printf("\n\n\n\n\n\n\n\n\n\n\t\t\t\t ...Loading...\n");**

**system ( "color 01" );**

**Sleep ( 100 );**

**system ( "color 02" );**

**Sleep ( 100 );**

**system ( "color 03" );**

**Sleep ( 100 );**

**system ( "color 04" );**

**Sleep ( 100 );**

**system ( "color 05" );**

**Sleep ( 100 );**

**system ( "color 06" );**

**Sleep ( 100 );**

**system ( "color 07" );**

**Sleep ( 100 );**

**system ( "color 08" );**

**Sleep ( 100 );**

**system ( "color 09" );**

**Sleep ( 100 );**

**system( "color 0A" );**

**Sleep( 100 );**

**system( "color 0B" );**

**Sleep( 100 );**

**system( "color 0C" );**

**Sleep( 100 );**

**system( "color 0D" );**

**Sleep( 100 );**

**system( "color 0E" );**

**Sleep( 100 );**

**system( "color 0F" );**

**Sleep( 100 );**

**system("cls");**

**}**

**while(loop\_choice==1){**

**printf("\a\a\a\n\t\t\t================================\n");**

**printf("\n\t\t\t SIMPLE MATHERMATICS CALCULATOR\n");**

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

**printf("\n\t\t\t1.Arithmetic Operations\n");**

**printf("\n\t\t\t2.Power and Root Functions\n");**

**printf("\n\t\t\t3.Trigonometric Functions\n");**

**printf("\n\t\t\t4.Hyperbolic Function\n");**

**printf("\n\t\t\t5.Logarithmic Functions\n");**

**printf("\n\t\t\t6.Other Functions\n");**

**printf("\n\t\t\t0.Exit Program\n\n");**

**printf("\n\t\t\tEnter your choice [1-6 or 0] : ");**

**scanf("%d", &main\_choice);**

**system("cls");**

**switch(main\_choice){**

**case 0 : exit(0);**

**break;**

**case 1 : f\_arith();**

**break;**

**case 2 : f\_power();**

**break;**

**case 3 : f\_tri();**

**break;**

**case 4 : f\_hyper();**

**break;**

**case 5 : f\_log();**

**break;**

**case 6 : f\_oth();**

**break;**

**default :{ system("cls");**

**printf("\a\n\t\t\tError!!! Enter your choice again.");**

**printf("\a\n\t\t\tPress any keys to continue...");**

**getch();**

**system("cls");**

**}**

**}**

**}**

**//getch();**

**}**