#include<iostream>

#include<cmath>

#include<iomanip>

using namespace std;

int main() {

//Declare variables

char selection;

double num;

//set precision for program

cout << fixed << setprecision(0);

//Give user intrustions and display menu

cout << "Hey there.\n"\

<<"This program will allow you to test if a number meets a specific condition.\n"

<<"To get started please choose if you would like to test if:\n\n"

<<"A.The number is even or odd\n\n"

<<"B.The number has factor of 2 and 3\n\n"

<<"C.The number has a factor of 5\n\n"

<<"D.the number has a factor of 7\n\n";

cout << "What condition would you like to test?(select from the menu above)";

cin >> selection;

cout << "\n";

//Switch statement

switch (selection)

{

case 'a'://fall through

case 'A':

{

//Ask user to input number

cout << "Which number would you like to test that condition on?";

cin >> num;

cout << "\n";

if (fmod(num, 2) == 0) {

cout << num << " is an even number!\n\n";

}

else

{

cout << num << " is an odd number!\n\n";

}

break;

}

case 'b'://fall through

case 'B':

{

//Ask user to input number

cout << "Which number would you like to test that condition on?";

cin >> num ;

cout << "\n";

if (fmod(num, 2) == 0 && fmod(num, 3) == 0) {

cout << num << " is divisible by both 2 and 3\n\n";

}

else

{

cout << num << " is not divisible by both 2 or 3\n\n";

}

break;

}

case 'c'://fall through

case 'C':

{

//Ask user to input number

cout << "Which number would you like to test that condition on?";

cin >> num;

cout << "\n";

if (fmod(num, 5) == 0) {

cout << num << " is divisible by 5\n\n";

}

else

{

cout << num << " is not divisible by 5\n\n";

}

break;

}

case 'd'://fall through

case 'D':

{

//Ask user to input number

cout << "Which number would you like to test that condition on?";

cin >> num;

cout << "\n";

if (fmod(num, 7) == 0) {

cout << num << " has a factor of 7!\n\n";

}

else

{

cout << num << " does not have a factor of 7.\n\n";

}

break;

}

default:

cout << "Invalid option selected, please restart program and select a valid option.\n\n";

}

cout << "Thank you!";

cout << "\n\n\n\n";

return 0;

}