# Question No. 1

#include <iostream>

using namespace std;

void letter();

int main()

{

letter();

}

void letter()

{

char letter;

cout << "Enter the character: ";

cin >> letter;

if(letter>='a'&&letter<='z')

{

cout << "\n\""<< letter << "\" is a small letter." << endl;

}

else if(letter>='A'&&letter<='Z')

{

cout << "\n\""<< letter << "\" is a large letter." << endl;

}

else

cout << "\n Not a letter!!!" << endl;

}

# Output:

# Question No. 2

#include <iostream>

using namespace std;

float addition(float num1, float num2, float num3, float num4, float num5)

{

float sum;

sum = 0;

sum = num1 + num2 + num3 + num4 + num5;

cout << "The addition is : " << sum << endl;

return sum;

}

float multiplication(float num1, float num2, float num3, float num4, float num5)

{

float multiply;

multiply = 1;

multiply = num1 \* num2 \* num3 \* num4 \* num5;

cout << "The multiplication is : " << multiply << endl;

return multiply;

}

int main()

{

float n1, n2, n3, n4, n5;

n1 = 1.4;

n2 = 2.5;

n3 = 3.6;

n4 = 4.7;

n5 = 5.8;

//With Constant Values

cout << "Using constant values: ";

addition(1.8, 2.7, 3.6, 4.5, 5.4);

//With Variables

cout << "\nUsing valiables values: ";

addition(n1, n2, n3, n4, n5);

//With Constant Values

cout << "\nUsing constant values: ";

multiplication(1, 2, 3, 4, 5);

//With Variables

cout << "\nUsing variables values: ";

multiplication(n1, n2, n3, n4, n5);

return 0;

}

# Output:

# Question No. 3

#include <iostream>

using namespace std;

void star(int num)

{

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

{

cout << "\*";

}

cout << endl;

}

int main()

{

int num;

//With Constant Value

cout << "Using constant value: ";

star(15);

//With Variable

cout << "\nEnter number: ";

cin >> num;

cout << "\nUsing Variable value: ";

star(num);

}

# Output:

# Question No. 4

#include <iostream>

using namespace std;

int rectangle(char val, int si)

{

int letter, size;

for(int i = 1; i <= 6; i++)

{

for(int j = 1; j <= si; j++)

{

if((i == 1||i == 6)||(j == 1||j == si))

cout << val;

else

cout << " ";

}

cout << endl;

}

return letter;

return size;

}

int main()

{

int size;

char chracter;

cout << "Enter a Chracter: ";

cin >> chracter;

cout << "Please, Enter Size: ";

cin >> size;

//cout << "\nWith Variable: ";

rectangle(chracter, size);

cout << endl;

//cout << "\nWith Constants: ";

rectangle('\*', 18);

return 0;

}

# Output:

# Question No. 5

#include <iostream>

using namespace std;

float average(float num1, float num2, float num3, float num4, float num5)

{

float result = 0;

result = (num1 + num2 + num3 + num4 + num5) / 5;

cout << "\nThe average of given Numbers is: " << result;

return result;

}

int main()

{

float num1, num2, num3, num4, num5;

cout << "Enter 5 Numbers: ";

cin >> num1 >> num2 >> num3 >> num4 >> num5;

average(num1, num2, num3, num4, num5);

}

# Output:

# Question No. 6

#include <iostream>

using namespace std;

void largest(int num1, int num2)

{

(num1 > num2)? cout << num1 << " is the Largest Number" : cout << num2 << " is the Largest Number";

}

int main()

{

int n1, n2;

cout << "Enter 2 Numbers: ";

cin >> n1 >> n2;

cout << endl;

largest(n1, n2);

return 0;

}

# Output:

# Question No. 7

#include <iostream>

using namespace std;

void hash(int num1, int num2, int num3, int num4, int num5)

{

for(int i = 1; i <= 1; i++)

{

for(int a = 1; a <= num1; a++)

{

cout <<"#";

}

cout << "\n";

}

for(int i = 1; i <= 1; i++)

{

for(int a = 1; a <= num2; a++)

{

cout <<"#";

}

cout << "\n";

}

for(int i = 1; i <= 1; i++)

{

for(int a = 1; a <= num3; a++)

{

cout <<"#";

}

cout << "\n";

}

for(int i = 1; i <= 1; i++)

{

for(int a = 1; a <= num4; a++)

{

cout <<"#";

}

cout << "\n";

}

for(int i = 1; i <= 1; i++)

{

for(int a = 1; a <= num5; a++)

{

cout <<"#";

}

cout << "\n";

}

}

int main()

{

int num1, num2, num3, num4, num5;

cout << "Enter 5 Numbers: ";

cin >> num1 >> num2 >> num3 >> num4 >> num5;

cout << endl;

hash(num1, num2, num3, num4, num5);

}

# Output:

# Question No. 8

#include <iostream>

using namespace std;

int fact(int num)

{

int fact;

fact = 1;

for(int i = 1; i<=num; i++)

{

fact = fact\*i;

}

cout << "The factorial of " << num << " is : " << fact;

return fact;

}

int main()

{

int num;

cout << "Enter a number to calculate its factorial: ";

cin >> num;

fact(num);

}

# Output:

# Question No. 9

#include <iostream>

using namespace std;

float addition(float num1, float num2, float num3, float num4, float num5)

{

return (num1 + num2 + num3 + num4 + num5);

}

float multiplication(float num1, float num2, float num3, float num4, float num5)

{

return (num1 \* num2 \* num3 \* num4 \* num5);

}

int main()

{

float n1, n2, n3, n4, n5;

n1 = 1.4;

n2 = 2.5;

n3 = 3.6;

n4 = 4.7;

n5 = 5.8;

//With Constant Values

cout << "Using constant values: ";

cout << addition(1.8, 2.7, 3.6, 4.5, 5.4);

//With Variables

cout << "\nUsing valiables values: ";

cout << addition(n1, n2, n3, n4, n5);

//With Constant Values

cout << "\nUsing constant values: ";

cout << multiplication(1, 2, 3, 4, 5);

//With Variables

cout << "\nUsing variables values: ";

cout << multiplication(n1, n2, n3, n4, n5);

}

# Output:

# Question No. 10

#include <iostream>

#include <math.h>

using namespace std;

float add(float num1, float num2, float num3, float num4, float num5)

{

return (num1 + num2 + num3 + num4 + num5);

}

int main()

{

float n1, n2, n3, n4, n5;

float add = 0;

cout << "Enter 5 Numbers to calculate its average: ";

cin >> n1 >> n2 >> n3 >> n4 >> n5;

add = (n1 + n2 + n3 + n4 + n5) / 5;

cout << "\nAverage is : " << add << endl;

return 0;

}

# Output:

# Question No. 11

#include <iostream>

using namespace std;

float area(float rad)

{

float area = 0;

float pie = 3.1416;

area = pie \* rad \* rad;

cout << "\nArea of the circle is: " << area << endl;

return area;

}

int main()

{

float r;

r = 1;

cout << "Enter the radius of the circle: ";

cin >> r;

area(r);

}

# Output:

# Question No. 12

#include<iostream>

using namespace std;

float area(float radius,char s )

{

const float pi = 3.14;

if(s == 'a')

{

return (pi \* radius \* radius);

}

else if(s == 'c')

{

return(2 \* pi \* radius);

}

else

{

return 0;

}

}

int main(){

float r;

char ans;

cout << "Enter the radius(c=circumference, a=area):";

cin >> r;

while(1)

{

cout << "Enter the character:";

cin >> ans;

if(ans == 'a'||ans== 'c')

{

break;

}

else{

cout << "Not character!!!" << endl;

}

}

cout << "Answer is " << area(r, ans) << endl;

return 0;

}

# Output:

# Question No. 13

#include<iostream>

using namespace std;

int add(int num1, int num2)

{

return(num1 + num2);

}

int sub(int num1, int num2)

{

return(num1 - num2);

}

int multi(int num1, int num2)

{

return(num1 \* num2);

}

int div(int num1, int num2)

{

return(num1 / num2);

}

int mod(int num1, int num2)

{

return (num1 % num2);

}

int main()

{

int n1, n2;

char c;

cout << "Enter the num = ";

cin >> n1 >> n2;

cout << "Enter the operator(+,-,\*,/,%) = ";

cin >> c;

if(c == '+')

{

cout << add(n1, n2);

}

else if(c == '-')

{

cout << sub(n1, n2);

}

else if(c == '\*')

{

cout << multi(n1, n2);

}

else if(c == '/')

{

cout << div(n1, n2);

}

else if(c == '%')

{

cout << mod(n1, n2);

}

else{

cout << "Not Valid Operator!!!" << endl;

}

}

# Output:

# Question No. 14

#include <iostream>

using namespace std;

void swapValues(int num1, int num2)

{

int temp;

cout << "Value Before Swapping 'a' = " << num1;

cout << "\nValue Before Swapping 'b' = " << num2;

temp = num1;

num1 = num2;

num2 = temp;

cout << "\n\nValue After Swapping 'a' = " << num1;

cout << "\nValue After Swapping 'b' = " << num2;

}

int main()

{

int n1, n2;

cout << "Enter 2 Values: ";

cin >> n1 >> n2;

swapValues(n1, n2);

return 0;

}

# Output:

# Question No. 15

#include <iostream>

using namespace std;

bool checker(int num1, int num2)

{

if(num1 % num2 == 0)

return true;

else

return false;

}

int main()

{

int n1, n2;

cout << "Enter 2 Numbers: ";

cin >> n1 >>n2;

cout << checker(n1, n2) << endl;

return 0;

}

# Output:

# Question No. 16

#include <iostream>

using namespace std;

int check(int num1, int num2)

{

int result;

for(int i = 1; i <= num1 && i <= num2; i++)

{

if(num1%i==0&&num2%i==0)

{

result = i;

}

}

return result;

}

int main()

{

int x, y;

cout << "Enter 2 values: ";

cin >> x >> y;

cout << "\nGreatest Common Divisor : " << check(x, y);

return 0;

}

# Output:

# Question No. 17

#include <iostream>

using namespace std;

int encrypt(int num)

{

int num1, num2, num3, num4;

num4 = (num % 10);

num = num / 10;

num3 = (num % 10);

num = num / 10;

num2 = (num % 10);

num = num / 10;

num1 = (num % 10);

num = num / 10;

num1 = (num1 + 3) % 10;

num2 = (num2 + 3) % 10;

num3 = (num3 + 3) % 10;

num4 = (num4 + 3) % 10;

return((num1 \* 1000) + (num2 \* 100) + (num3 \* 10) + num4);

}

int decrypt(int n)

{

int num1, num2, num3, num4;

num4 = (n % 10);

n = n / 10;

num3 = (n % 10);

n = n / 10;

num2 = (n % 10);

n = n / 10;

num1 = (n % 10);

n = n / 10;

num1 = (num1 - 3) % 10;

num2 = (num2 - 3) % 10;

num3 = (num3 - 3) % 10;

num4 = (num4 - 3) % 10;

return((num1 \* 1000) + (num2 \* 100) + (num3 \* 10) + num4);

}

int main()

{

int num;

char ans;

cout<<"Enter num = ";

cin>>num;

while(1){

cout<<"Enter the ('e' for encrypt and 'd' for decrypt) : ";

cin>>ans;

if(ans=='e'||ans=='d')

{

break;

}

else{

cout<<"Enter 'e' or 'd'"<<endl;

}

}

if(ans=='e')

{

cout<<"Now number is = "<<encrypt(num)<<endl;

}

else

{

cout << "Now number is = " << decrypt(num) << endl;

}

system("pause");

return 0;

}

# Output:

# Question No. 18

#include <iostream>

using namespace std;

int main()

{

int num;

int &ref = num;

float num1;

float &ref1 = num1;

char letter;

char &ref2 = letter;

cout << "Enter integer value: ";

cin >> ref;

cout << "Enter float value: ";

cin >> ref1;

cout << "Enter character value: ";

cin >> ref2;

cout << "The integer value is: " << num << endl;

cout << "The float value is: " << num1 << endl;

cout << "The character value is: " << letter << endl;

return 0;

}

# Output:

# Question No. 19

#include <iostream>

using namespace std;

void reference(char &alpha, char &alpha1)

{

cout << "First Chracter : " << alpha << endl;

cout << "Second Chracter : " << alpha1 << endl;

}

int main()

{

char first, second;

cout << "Enter 2 chracters: ";

cin >> first >> second;

reference(first, second);

}

# Output:

# Question No. 20

#include<iostream>

using namespace std;

// Call by Reference

void passByReference(int &x, int &y)

{

int z = x;

x = y;

y = z;

}

int main()

{

int a = 5; int b = 6;

cout << "Before Swapping: " << endl << "a: " << a << endl << " b: " << b << endl << endl;

// call function

passByReference(a, b);

cout << "After Swapping: " << endl << "a: " << a << endl << " b: " << b << endl << endl;

return 0;

}

# Output:

# Question No. 21

#include<iostream>

using namespace std;

void value(int a1, int b2, int c3, int d4, int e5)

{

}

int main()

{

int a = 0, b = 0, c = 0, d = 0, e = 0;

cout << "Enter the five numbers =";

cin >> a >> b >> c >> d >> e;

value(a, b, c, d, e);

int &ref1 = a, &ref2 = b, &ref3 = c, &ref4 = d, &ref5 = e;

cout << ref1 << endl << ref2 << endl << ref3 << endl << ref4 << endl<< ref5 << endl;

return 0;

}

# Output: