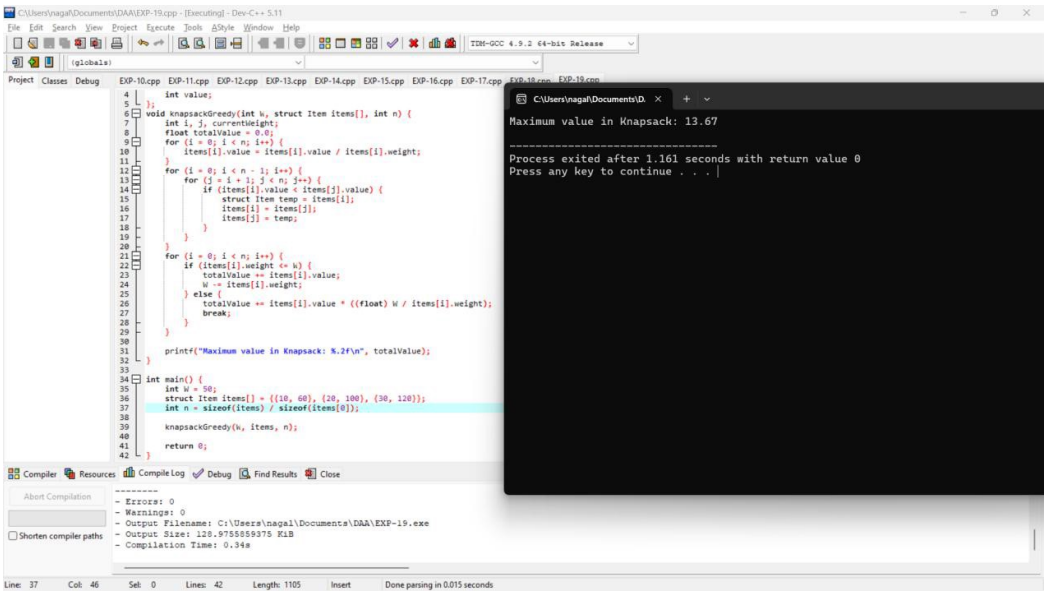
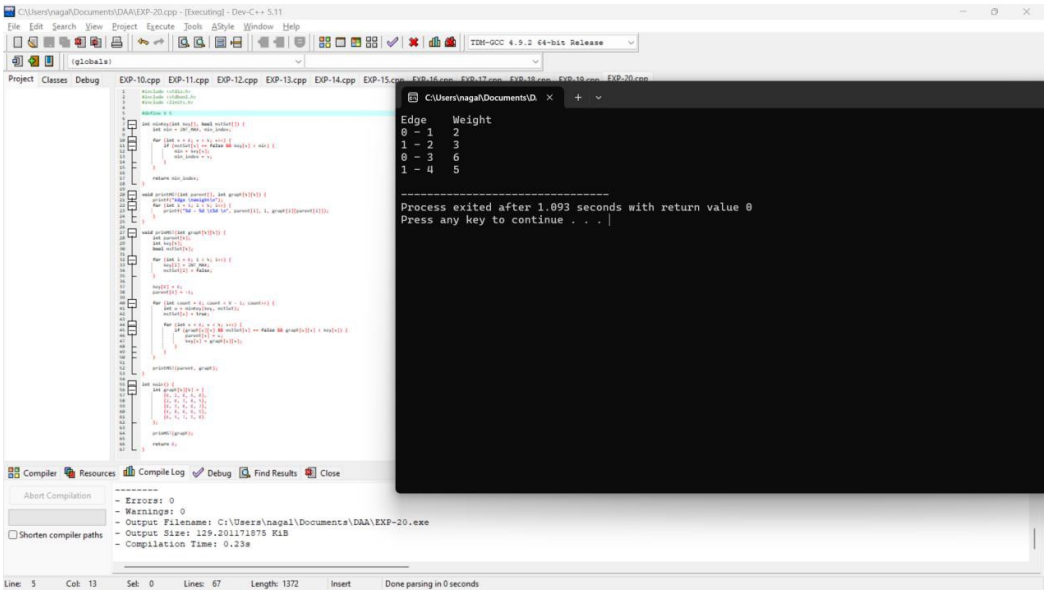
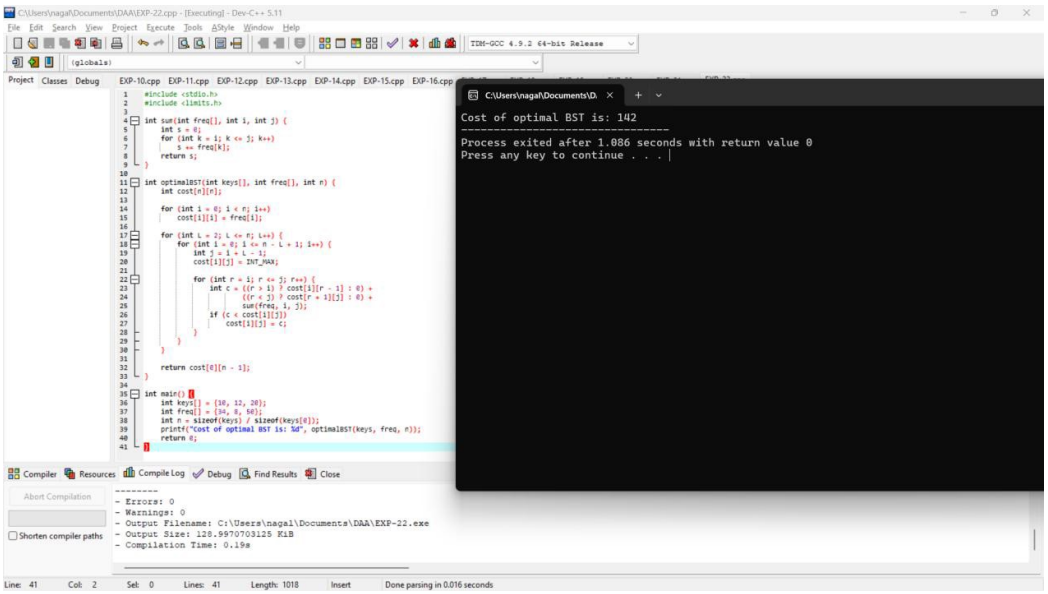
19.


C:\Users\nagal\Documents\DAA\EXP-19.cpp - [Executing] - Dev-C++ 5.11
Maximum value in Knapsack: 13.67
Process exited after 1.161 seconds with return value 0
Press any key to continue . . .
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\nagal\Documents\DAA\EXP-19.exe
- Output Size: 128.9755859375 KiB
- Compilation Time: 0.34s

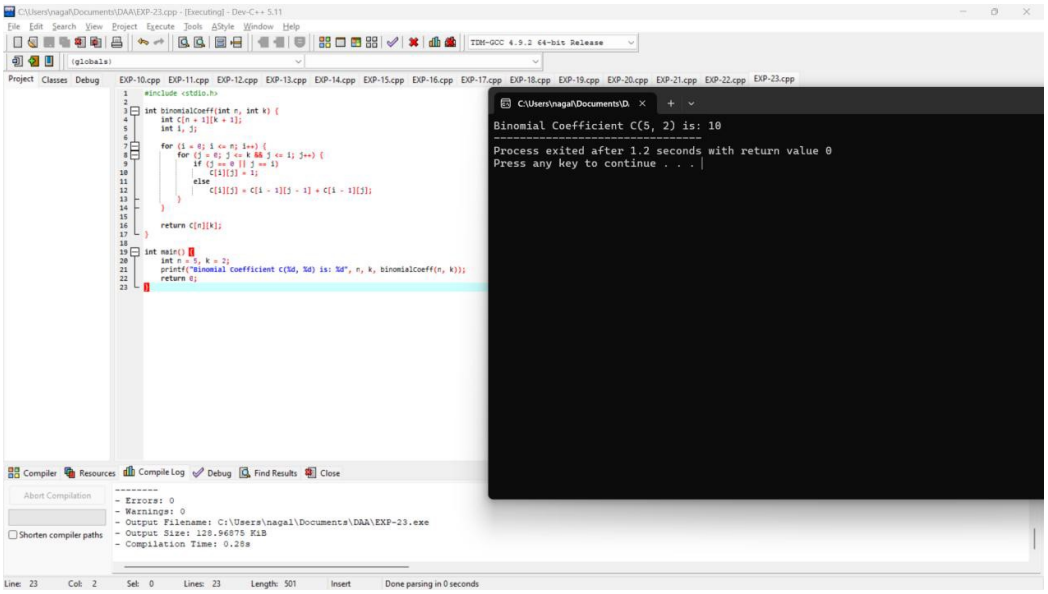
20.


C:\Users\nagal\Documents\DAA\EXP-20.cpp - [Executing] - Dev-C++ 5.11
Edge Weight
0 - 1 2
1 - 2 3
0 - 3 6
1 - 4 5
Process exited after 1.093 seconds with return value 0
Press any key to continue . . .
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\nagal\Documents\DAA\EXP-20.exe
- Output Size: 129.201171875 KiB
- Compilation Time: 0.23s

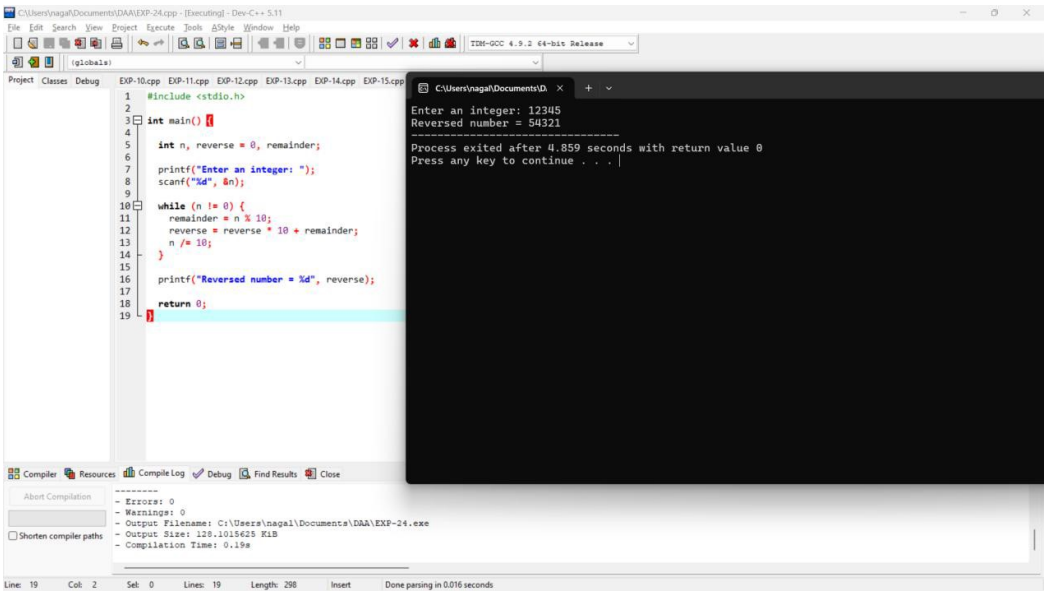
21.


C:\Users\nagal\Documents\DAA\EXP-22.cpp - [Executing] - Dev-C++ 5.11
#include <stdio.h>
#include <limits.h>
int sum(int freq[], int i, int j) {
int s = 0;
for (int k = i; k <= j; k++)
s += freq[k];
return s;
}
int optimalBST(int keys[], int freq[], int n) {
int cost[n][n];
for (int i = 0; i < n; i++)
cost[i][i] = freq[i];
for (int L = 2; L <= n; L++) {
for (int i = 0; i <= n - L + 1; i++) {
int j = i + L - 1;
cost[i][j] = INT_MAX;
for (int r = i; r <= j; r++) {
int c = ((r > i) ? cost[i][r - 1] : 0) +
((r < j) ? cost[r + 1][j] : 0) +
sum(freq, i, j);
if (c < cost[i][j])
cost[i][j] = c;
}
}
}
return cost[0][n - 1];
}
int main() {
int keys[] = {10, 12, 20};
int freq[] = {34, 8, 50};
int n = sizeof(keys) / sizeof(keys[0]);
printf("Cost of optimal BST is: %d", optimalBST(keys, freq, n));
return 0;
}
C:\Users\nagal\Documents\D
Cost of optimal BST is: 142
Process exited after 1.086 seconds with return value 0
Press any key to continue . . .
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\nagal\Documents\DAA\EXP-22.exe
- Output Size: 128.9970703125 KiB
- Compilation Time: 0.19s

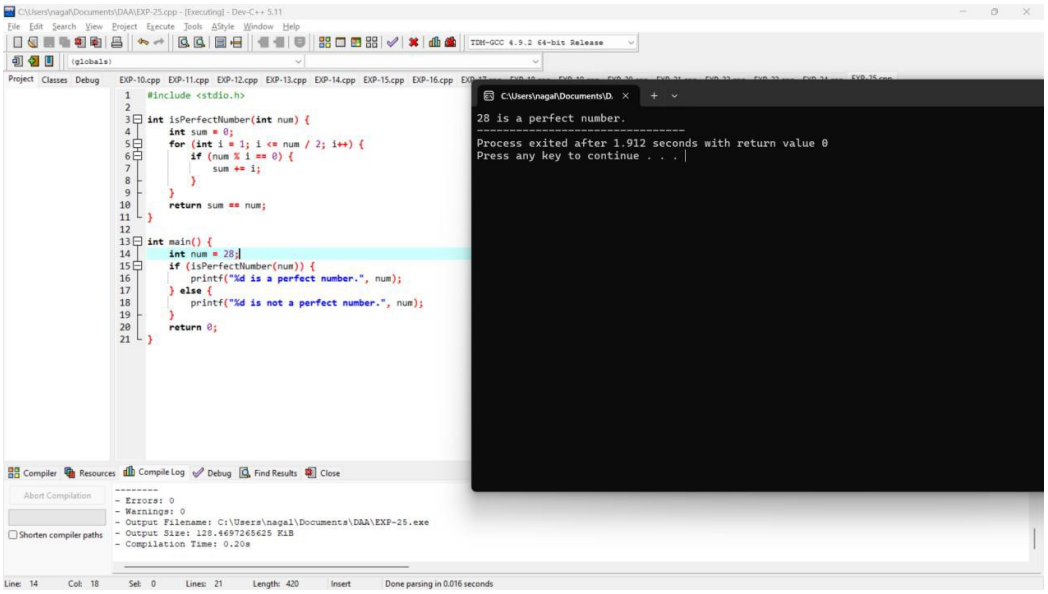
22.


C:\Users\nagal\Documents\DAA\EXP-23.cpp - [Executing] - Dev-C++ 5.11
#include <stdio.h>
int binomialCoeff(int n, int k) {
int C[n + 1][k + 1];
int i, j;
for (i = 0; i <= n; i++) {
for (j = 0; j <= k && j <= i; j++) {
if (j == 0 || j == i)
C[i][j] = 1;
else
C[i][j] = C[i - 1][j - 1] + C[i - 1][j];
}
}
return C[n][k];
}
int main() {
int n = 5, k = 2;
printf("Binomial coefficient C(%d, %d) is: %d", n, k, binomialCoeff(n, k));
return 0;
}
C:\Users\nagal\Documents\D
Binomial Coefficient C(5, 2) is: 10
Process exited after 1.2 seconds with return value 0
Press any key to continue . . .
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\nagal\Documents\DAA\EXP-23.exe
- Output Size: 128.96875 KiB
- Compilation Time: 0.28s

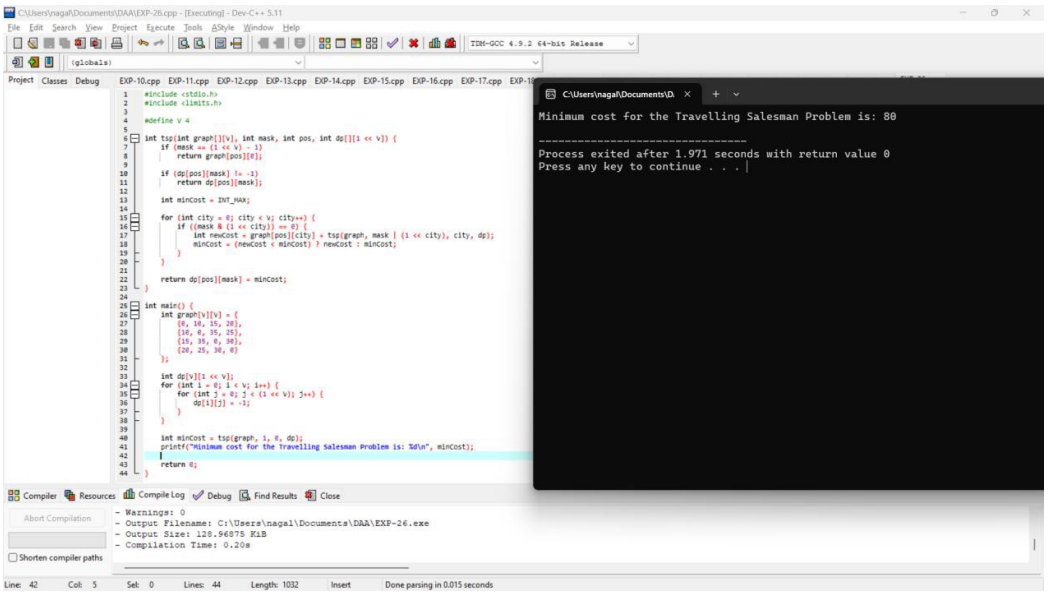
23.


#include <stdio.h>
int main() {
int n, reverse = 0, remainder;
printf("Enter an integer: ");
scanf("%d", &n);
while (n != 0) {
remainder = n % 10;
reverse = reverse * 10 + remainder;
n /= 10;
}
printf("Reversed number = %d", reverse);
return 0;
}
Enter an integer: 12345
Reversed number = 54321
Process exited after 4.859 seconds with return value 0
Press any key to continue . . .
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\nagal\Documents\DAA\EXP-24.exe
- Output Size: 128.1015625 KiB
- Compilation Time: 0.19s

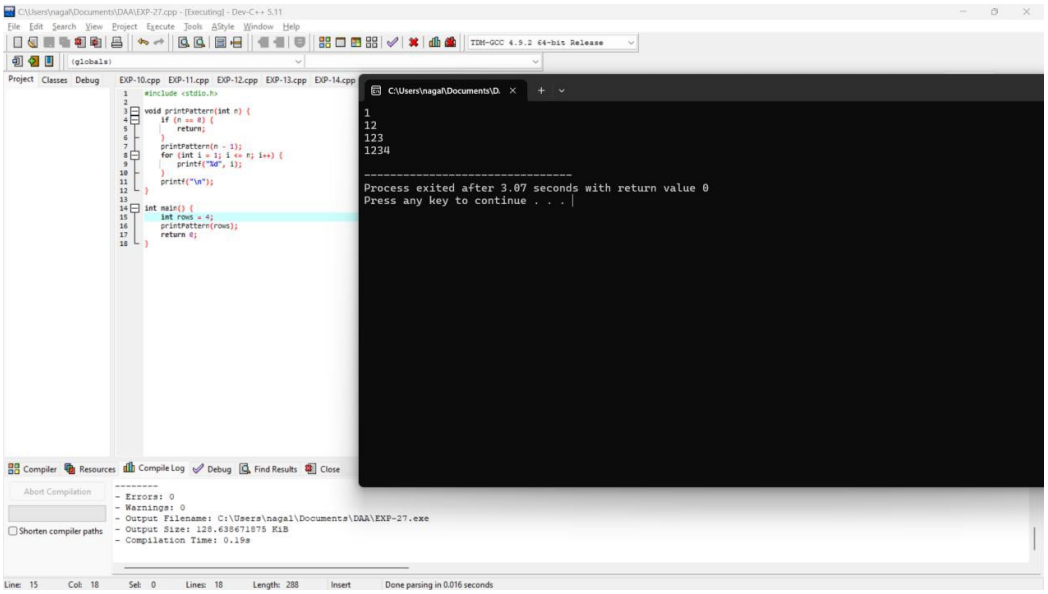
24.


#include <stdio.h>
int isPerfectNumber(int num) {
int sum = 0;
for (int i = 1; i <= num / 2; i++) {
if (num % i == 0) {
sum += i;
}
}
return sum == num;
}
int main() {
int num = 28;
if (isPerfectNumber(num)) {
printf("%d is a perfect number.", num);
} else {
printf("%d is not a perfect number.", num);
}
return 0;
}
28 is a perfect number.
Process exited after 1.912 seconds with return value 0
Press any key to continue . . .
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\nagal\Documents\DAA\EXP-25.exe
- Output Size: 128.4697265625 KiB
- Compilation Time: 0.20s

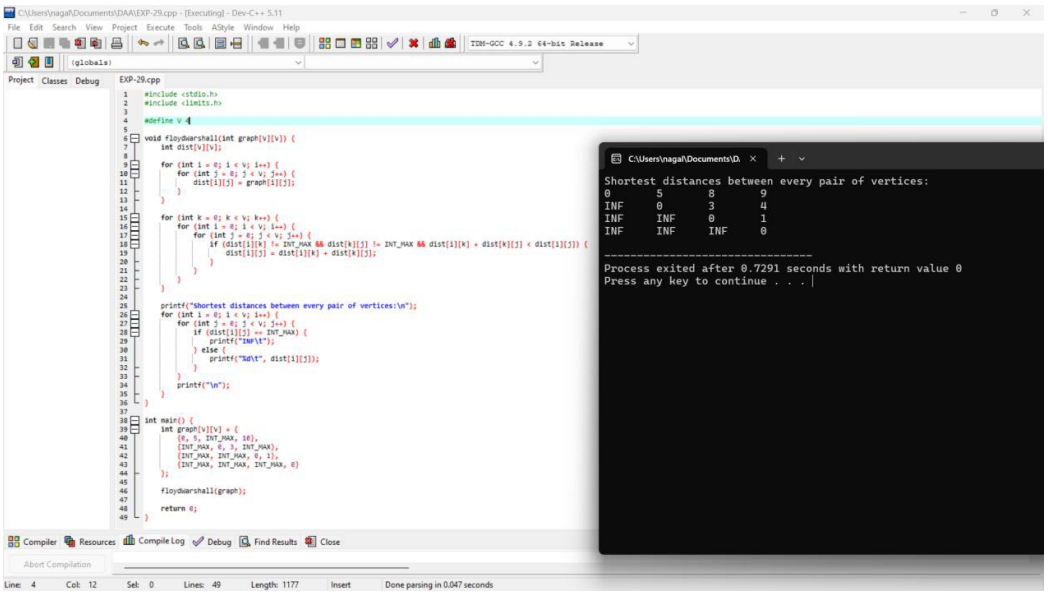
25.


#include <stdio.h>
#include <limits.h>
#define V 4
int tsp(int graph[][V], int mask, int pos, int dp[][1 << V]) {
if (mask == (1 << V) - 1)
return graph[pos][0];
if (dp[pos][mask] != -1)
return dp[pos][mask];
int minCost = INT_MAX;
for (int city = 0; city < V; city++) {
if ((mask & (1 << city)) == 0) {
int newCost = graph[pos][city] + tsp(graph, mask | (1 << city), city, dp);
minCost = (newCost < minCost) ? newCost : minCost;
}
}
return dp[pos][mask] = minCost;
}
int main() {
int graph[V][V] = {
{0, 10, 15, 20},
{10, 0, 35, 25},
{15, 35, 0, 30},
{20, 25, 30, 0}
};
int dp[V][1 << V];
for (int i = 0; i < V; i++) {
for (int j = 0; j < (1 << V); j++) {
dp[i][j] = -1;
}
}
int minCost = tsp(graph, 1, 0, dp);
printf("Minimum cost for the Travelling Salesman Problem is: %d\n", minCost);
return 0;
}
Minimum cost for the Travelling Salesman Problem is: 80
Process exited after 1.971 seconds with return value 0
Press any key to continue . . .
- Warnings: 0
- Output Filename: C:\Users\nagal\Documents\DAA\EXP-26.exe
- Output Size: 128.96875 KiB
- Compilation Time: 0.20s

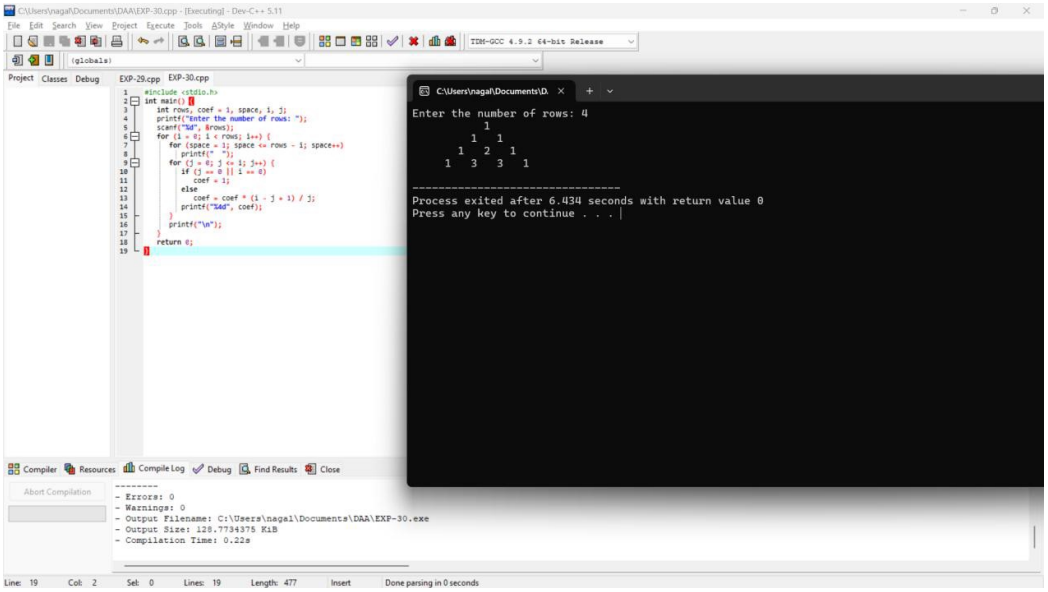
26.


#include <stdio.h>
void printPattern(int n) {
if (n == 0) {
return;
}
printPattern(n - 1);
for (int i = 1; i <= n; i++) {
printf("%d", i);
}
printf("\n");
}
int main() {
int rows = 4;
printPattern(rows);
return 0;
}
1
12
123
1234
Process exited after 3.07 seconds with return value 0
Press any key to continue . . .
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\nagal\Documents\DAA\EXP-27.exe
- Output Size: 128.638671875 KiB
- Compilation Time: 0.19s

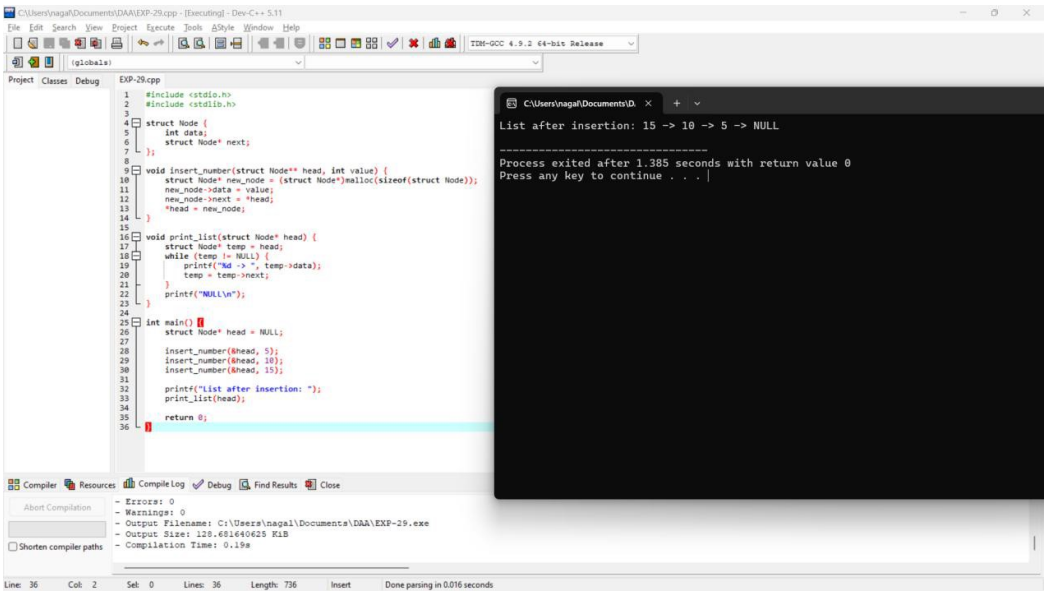
27.


C:\Users\nagal\Documents\DAA\EXP-29.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
Project Classes Debug
EXP-29.cpp
#include <stdio.h>
#include <limits.h>
#define V 4
void floydWarshall(int graph[V][V]) {
int dist[V][V];
for (int i = 0; i < V; i++) {
for (int j = 0; j < V; j++) {
dist[i][j] = graph[i][j];
}
}
for (int k = 0; k < V; k++) {
for (int i = 0; i < V; i++) {
for (int j = 0; j < V; j++) {
if (dist[i][k] != INT_MAX && dist[k][j] != INT_MAX && dist[i][k] + dist[k][j] < dist[i][j]) {
dist[i][j] = dist[i][k] + dist[k][j];
}
}
}
}
printf("Shortest distances between every pair of vertices:\n");
for (int i = 0; i < V; i++) {
for (int j = 0; j < V; j++) {
if (dist[i][j] == INT_MAX) {
printf("INF\t");
} else {
printf("%d\t", dist[i][j]);
}
}
printf("\n");
}
}
int main() {
int graph[V][V] = {
{0, 5, INT_MAX, 10},
{INT_MAX, 0, 3, INT_MAX},
{INT_MAX, INT_MAX, 0, 1},
{INT_MAX, INT_MAX, INT_MAX, 0}
};
floydWarshall(graph);
return 0;
}
C:\Users\nagal\Documents\D.
Shortest distances between every pair of vertices:
0 5 8 9
INF 0 3 4
INF INF 0 1
INF INF INF 0
Process exited after 0.7291 seconds with return value 0
Press any key to continue . . .
Compiler Resources Compile Log Debug Find Results Close
Abort Compilation
Line: 4 Col: 12 Sel: 0 Lines: 49 Length: 1177 Insert Done parsing in 0.047 seconds

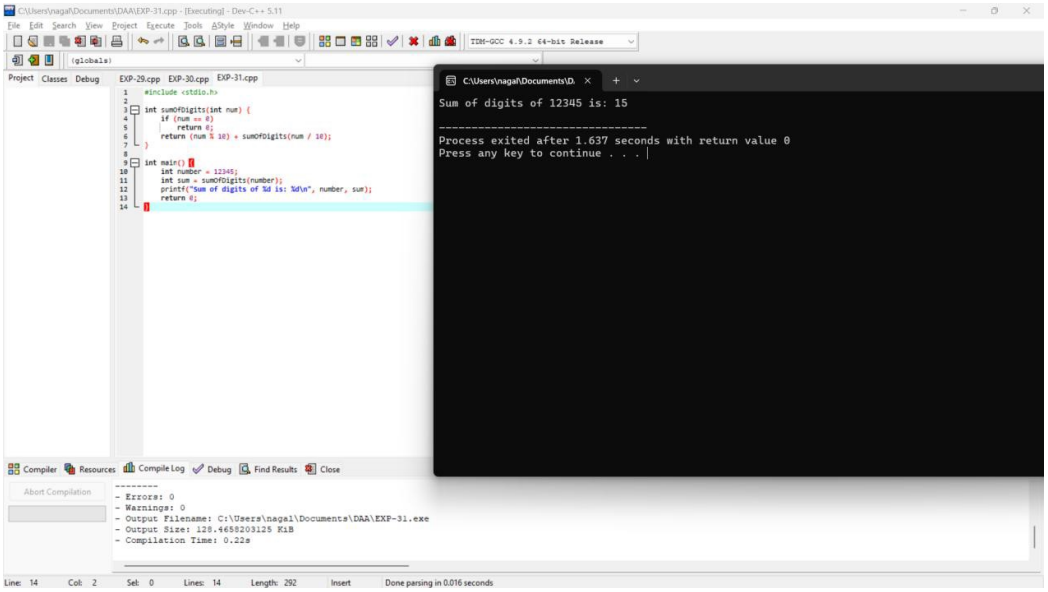
28.


C:\Users\nagal\Documents\DAA\EXP-30.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
Project Classes Debug
EXP-29.cpp EXP-30.cpp
#include <stdio.h>
int main() {
int rows, coef = 1, space, i, j;
printf("Enter the number of rows: ");
scanf("%d", &rows);
for (i = 0; i < rows; i++) {
for (space = 1; space <= rows - i; space++)
printf(" ");
for (j = 0; j <= i; j++) {
if (j == 0 || i == 0)
coef = 1;
else
coef = coef * (i - j + 1) / j;
printf("%4d", coef);
}
printf("\n");
}
return 0;
}
C:\Users\nagal\Documents\D.
Enter the number of rows: 4
1
1 1
1 2 1
1 3 3 1
Process exited after 6.434 seconds with return value 0
Press any key to continue . . .
Compiler Resources Compile Log Debug Find Results Close
Abort Compilation
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\nagal\Documents\DAA\EXP-30.exe
- Output Size: 128.7734375 KiB
- Compilation Time: 0.22s
Line: 19 Col: 2 Sel: 0 Lines: 19 Length: 477 Insert Done parsing in 0 seconds

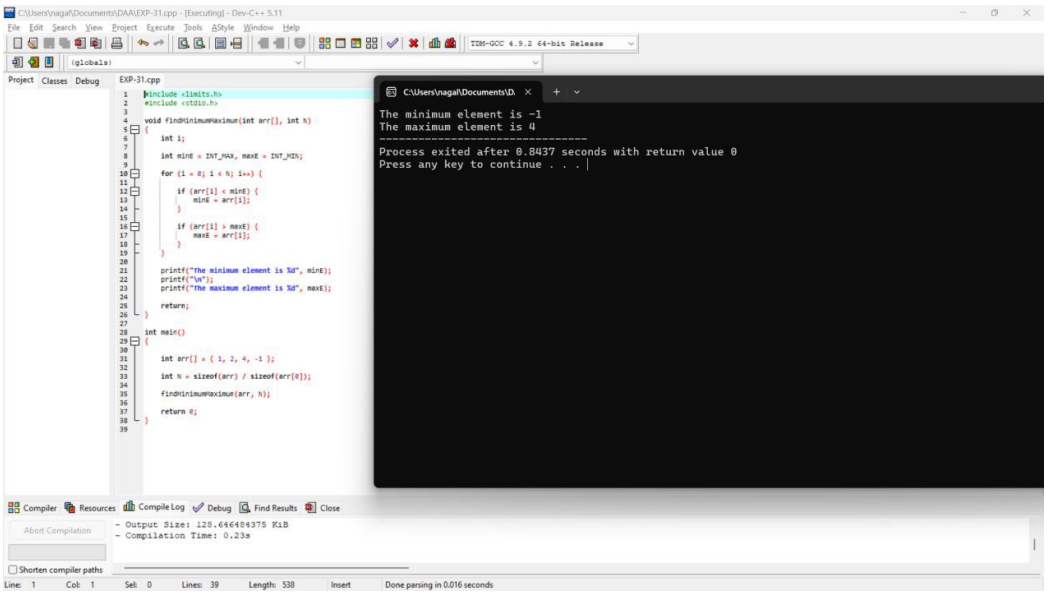
29.


C:\Users\nagal\Documents\DAA\EXP-29.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
Project Classes Debug
EXP-29.cpp
#include <stdio.h>
#include <stdlib.h>
struct Node {
int data;
struct Node* next;
};
void insert_number(struct Node** head, int value) {
struct Node* new_node = (struct Node*)malloc(sizeof(struct Node));
new_node->data = value;
new_node->next = *head;
*head = new_node;
}
void print_list(struct Node* head) {
struct Node* temp = head;
while (temp != NULL) {
printf("%d -> ", temp->data);
temp = temp->next;
}
printf("NULL\n");
}
int main() {
struct Node* head = NULL;
insert_number(&head, 5);
insert_number(&head, 10);
insert_number(&head, 15);
printf("List after insertion: ");
print_list(head);
return 0;
}
C:\Users\nagal\Documents\D
List after insertion: 15 -> 10 -> 5 -> NULL
Process exited after 1.385 seconds with return value 0
Press any key to continue . . .
Compiler Resources Compile Log Debug Find Results Close
Abort Compilation
Shorten compiler paths
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\nagal\Documents\DAA\EXP-29.exe
- Output Size: 128.681640625 KiB
- Compilation Time: 0.19s
Line: 36 Col: 2 Sel: 0 Lines: 36 Length: 736 Insert Done parsing in 0.016 seconds

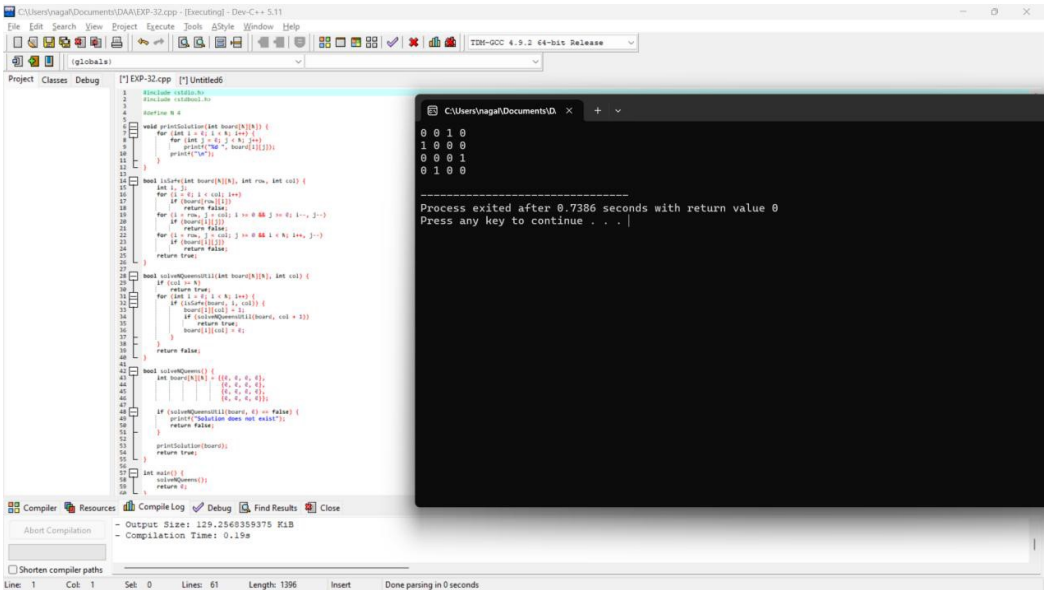
30.


C:\Users\nagal\Documents\DAA\EXP-31.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
Project Classes Debug
EXP-29.cpp EXP-30.cpp EXP-31.cpp
#include <stdio.h>
int sumOfDigits(int num) {
if (num == 0)
return 0;
return (num % 10) + sumOfDigits(num / 10);
}
int main() {
int number = 12345;
int sum = sumOfDigits(number);
printf("Sum of digits of %d is: %d\n", number, sum);
return 0;
}
C:\Users\nagal\Documents\D
Sum of digits of 12345 is: 15
Process exited after 1.637 seconds with return value 0
Press any key to continue . . .
Compiler Resources Compile Log Debug Find Results Close
Abort Compilation
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\nagal\Documents\DAA\EXP-31.exe
- Output Size: 128.4658203125 KiB
- Compilation Time: 0.22s
Line: 14 Col: 2 Sel: 0 Lines: 14 Length: 292 Insert Done parsing in 0.016 seconds

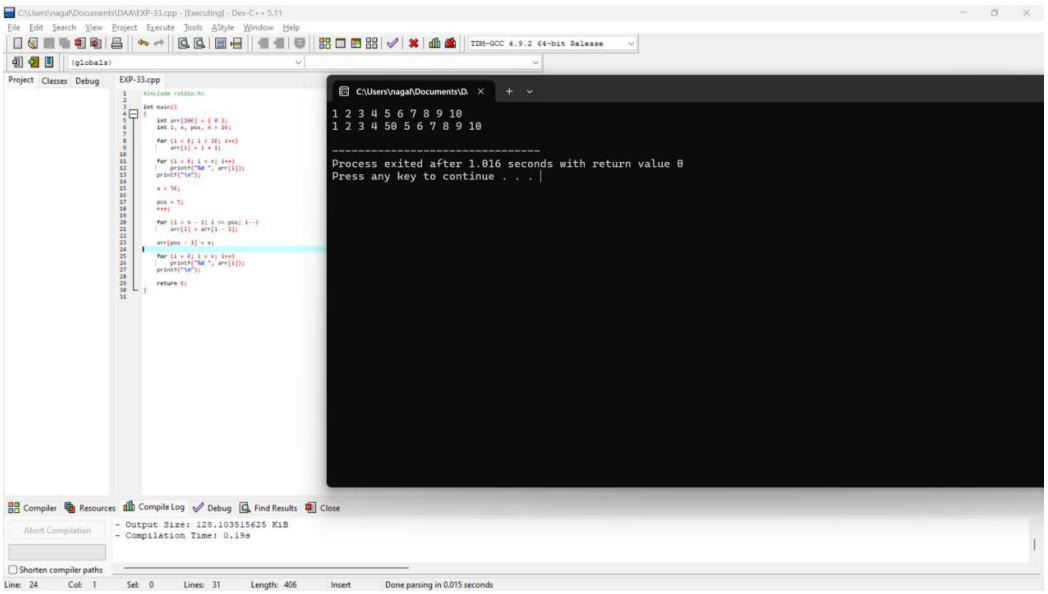
31.


C:\Users\nagal\Documents\DAA\EXP-31.cpp - [Executing] - Dev-C++ 5.11
EXP-31.cpp
C:\Users\nagal\Documents\D.
The minimum element is -1
The maximum element is 4
Process exited after 0.8437 seconds with return value 0
Press any key to continue . . .
- Output Size: 128.646484375 KiB
- Compilation Time: 0.23s

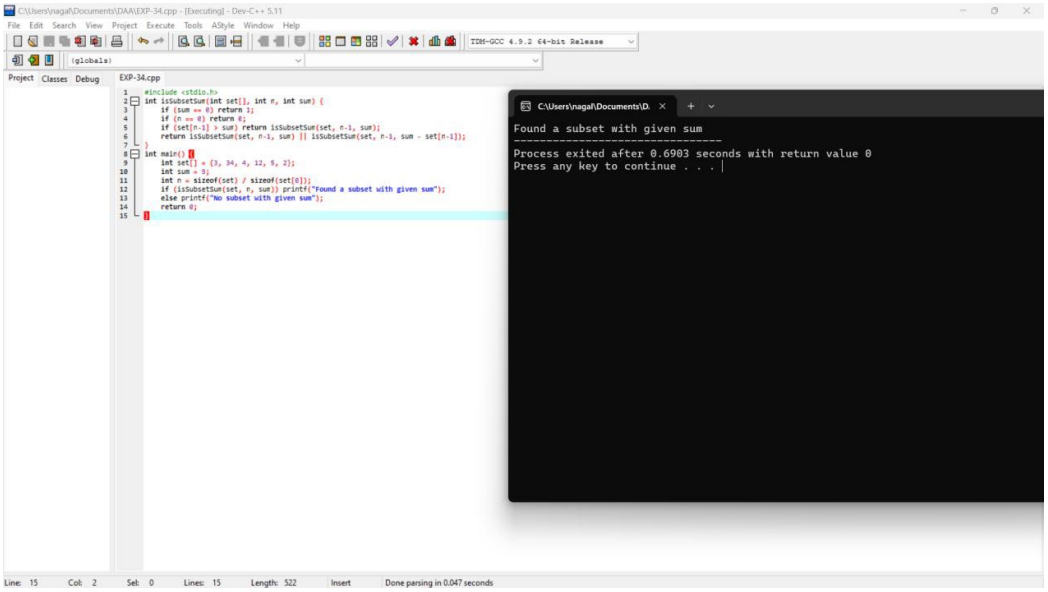
32.


C:\Users\nagal\Documents\DAA\EXP-32.cpp - [Executing] - Dev-C++ 5.11
[*] EXP-32.cpp
[*] Untitled6
C:\Users\nagal\Documents\D.
0 0 1 0
1 0 0 0
0 0 0 1
0 1 0 0
Process exited after 0.7386 seconds with return value 0
Press any key to continue . . .
- Output Size: 129.2568359375 KiB
- Compilation Time: 0.19s

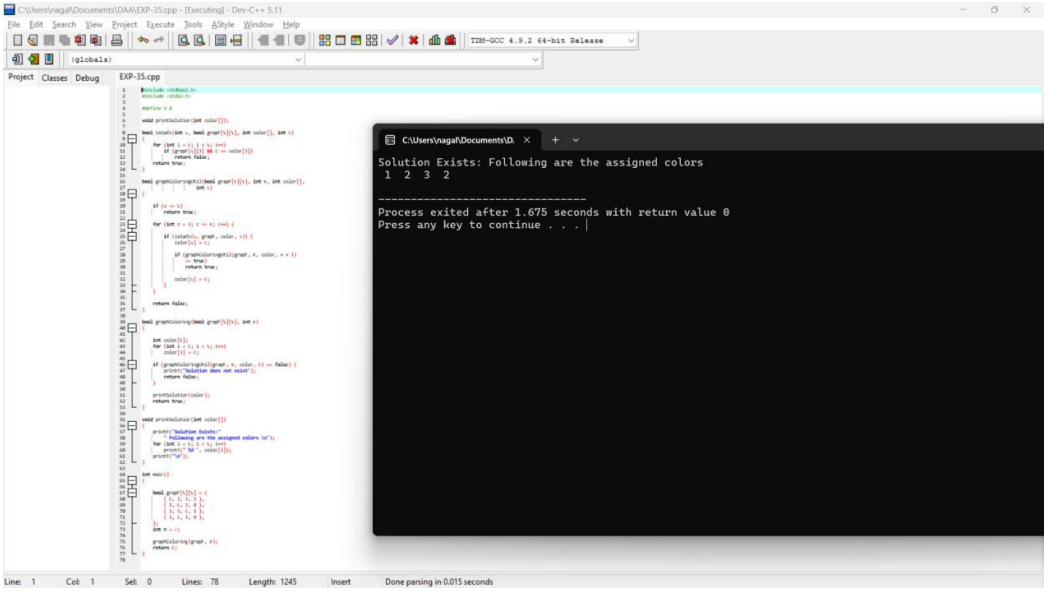
33.


C:\Users\nagal\Documents\DAA\EXP-33.cpp - [Executing] - Dev-C++ 5.11
EXP-33.cpp
1 2 3 4 5 6 7 8 9 10
1 2 3 4 50 5 6 7 8 9 10
Process exited after 1.016 seconds with return value 0
Press any key to continue . . .
- Output Size: 128.103515625 KiB
- Compilation Time: 0.19s

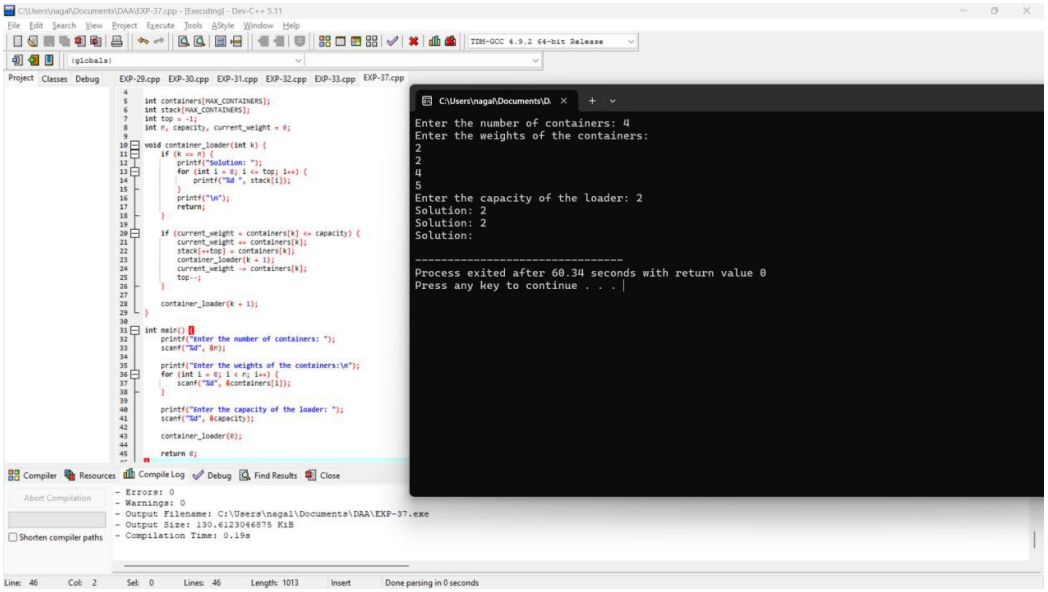
34.


C:\Users\nagal\Documents\DAA\EXP-34.cpp - [Executing] - Dev-C++ 5.11
EXP-34.cpp
Found a subset with given sum
Process exited after 0.6903 seconds with return value 0
Press any key to continue . . .

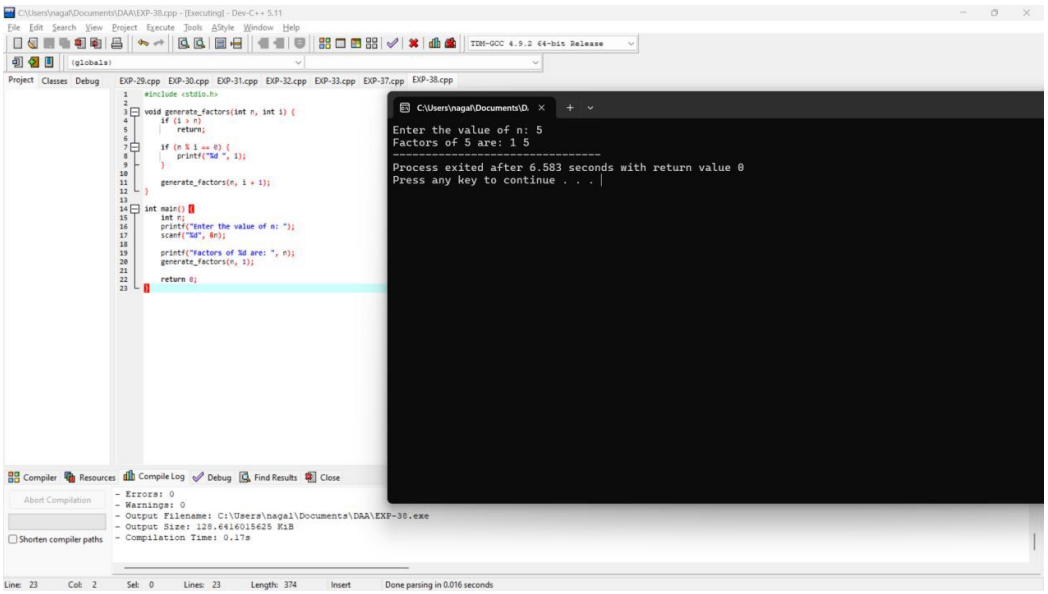
35.


C:\Users\nagal\Documents\DAA\EXP-35.cpp - [Executing] - Dev-C++ 5.11
EXP-35.cpp
C:\Users\nagal\Documents\D
Solution Exists: Following are the assigned colors
1 2 3 2
Process exited after 1.675 seconds with return value 0
Press any key to continue . . .

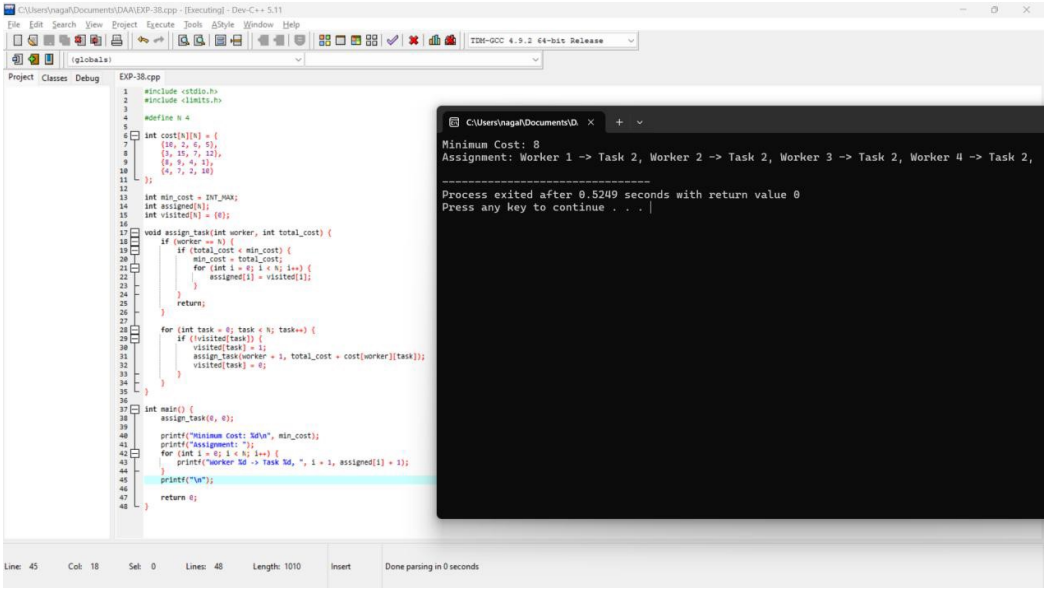
36.


C:\Users\nagal\Documents\DAA\EXP-37.cpp - [Executing] - Dev-C++ 5.11
EXP-29.cpp EXP-30.cpp EXP-31.cpp EXP-32.cpp EXP-33.cpp EXP-37.cpp
C:\Users\nagal\Documents\D
Enter the number of containers: 4
Enter the weights of the containers:
2
2
4
5
Enter the capacity of the loader: 2
Solution: 2
Solution: 2
Solution:
Process exited after 60.34 seconds with return value 0
Press any key to continue . . .
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\nagal\Documents\DAA\EXP-37.exe
- Output Size: 130.6123046875 KiB
- Compilation Time: 0.19s

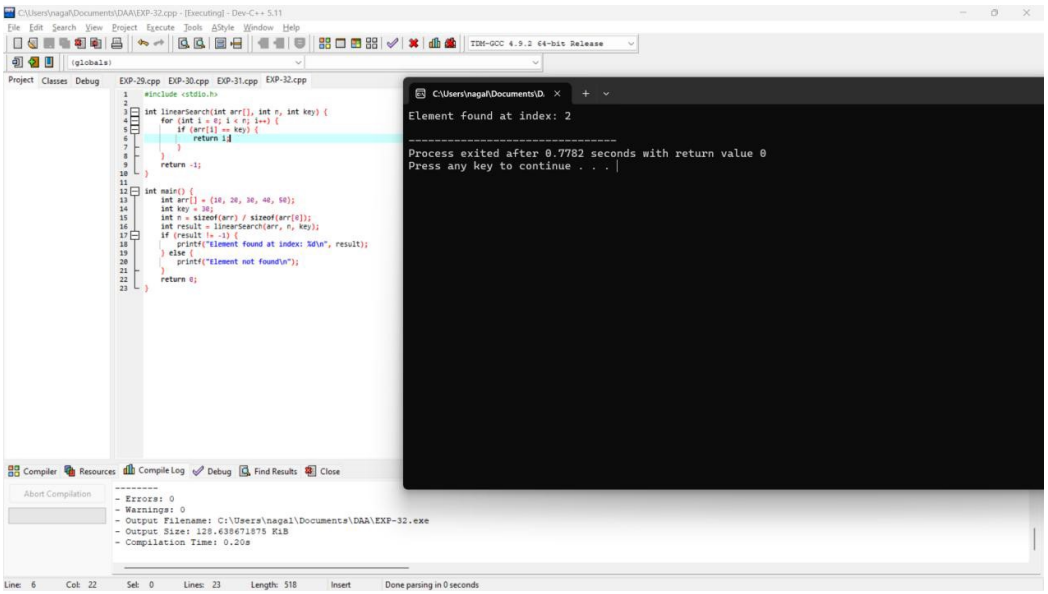
37.


C:\Users\nagal\Documents\DAA\EXP-38.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
Project Classes Debug
EXP-29.cpp EXP-30.cpp EXP-31.cpp EXP-32.cpp EXP-33.cpp EXP-37.cpp EXP-38.cpp
#include <stdio.h>
void generate_factors(int n, int i) {
if (i > n)
return;
if (n % i == 0) {
printf("%d ", i);
}
generate_factors(n, i + 1);
}
int main() {
int n;
printf("Enter the value of n: ");
scanf("%d", &n);
printf("Factors of %d are: ", n);
generate_factors(n, 1);
return 0;
}
C:\Users\nagal\Documents\D
Enter the value of n: 5
Factors of 5 are: 1 5
Process exited after 6.583 seconds with return value 0
Press any key to continue . . .
Compiler Resources Compile Log Debug Find Results Close
Abort Compilation
Shorten compiler paths
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\nagal\Documents\DAA\EXP-38.exe
- Output Size: 128.6416015625 KiB
- Compilation Time: 0.17s
Line: 23 Col: 2 Sel: 0 Lines: 23 Length: 374 Insert Done parsing in 0.016 seconds

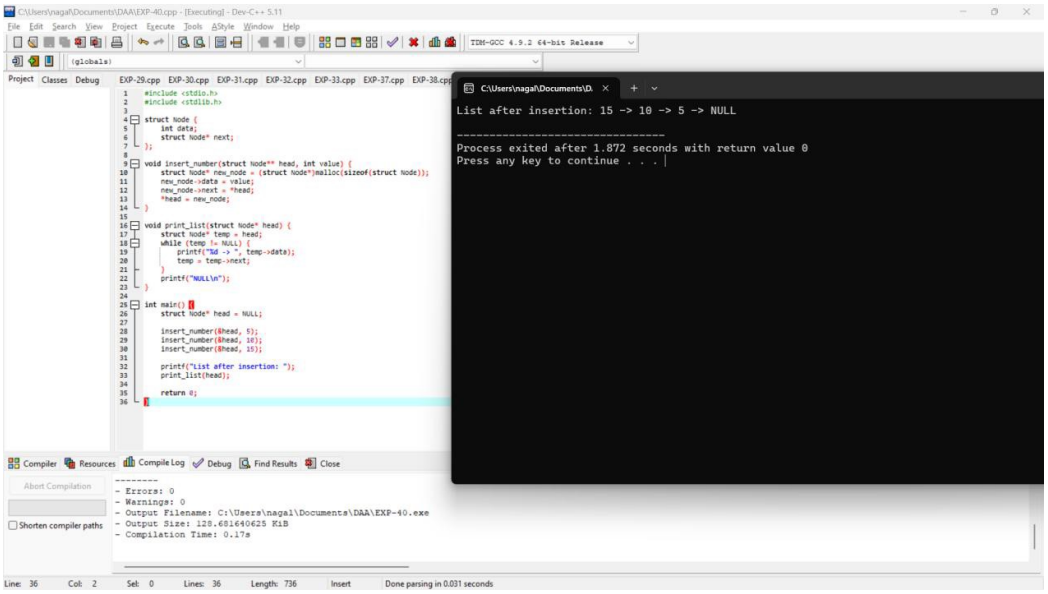
38.


C:\Users\nagal\Documents\DAA\EXP-38.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
Project Classes Debug
EXP-38.cpp
#include <stdio.h>
#include <limits.h>
#define N 4
int cost[N][N] = {
{10, 2, 6, 5},
{3, 15, 7, 12},
{8, 9, 4, 1},
{4, 7, 2, 10}
};
int min_cost = INT_MAX;
int assigned[N];
int visited[N] = {0};
void assign_task(int worker, int total_cost) {
if (worker == N) {
if (total_cost < min_cost) {
min_cost = total_cost;
for (int i = 0; i < N; i++) {
assigned[i] = visited[i];
}
}
return;
}
for (int task = 0; task < N; task++) {
if (!visited[task]) {
visited[task] = 1;
assign_task(worker + 1, total_cost + cost[worker][task]);
visited[task] = 0;
}
}
}
int main() {
assign_task(0, 0);
printf("Minimum Cost: %d\n", min_cost);
printf("Assignment: ");
for (int i = 0; i < N; i++) {
printf("Worker %d -> Task %d, ", i + 1, assigned[i] + 1);
}
printf("\n");
return 0;
}
C:\Users\nagal\Documents\D
Minimum Cost: 8
Assignment: Worker 1 -> Task 2, Worker 2 -> Task 2, Worker 3 -> Task 2, Worker 4 -> Task 2,
Process exited after 0.5249 seconds with return value 0
Press any key to continue . . .
Line: 45 Col: 18 Sel: 0 Lines: 48 Length: 1010 Insert Done parsing in 0 seconds

39.


C:\Users\nagal\Documents\DAA\EXP-32.cpp - [Executing] - Dev-C++ 5.11
EXP-29.cpp EXP-30.cpp EXP-31.cpp EXP-32.cpp
#include <stdio.h>
int linearSearch(int arr[], int n, int key) {
for (int i = 0; i < n; i++) {
if (arr[i] == key) {
return i;
}
}
return -1;
}
int main() {
int arr[] = {10, 20, 30, 40, 50};
int key = 30;
int n = sizeof(arr) / sizeof(arr[0]);
int result = linearSearch(arr, n, key);
if (result != -1) {
printf("Element found at index: %d\n", result);
} else {
printf("Element not found\n");
}
return 0;
}
C:\Users\nagal\Documents\D
Element found at index: 2
Process exited after 0.7782 seconds with return value 0
Press any key to continue . . .
Compiler Resources Compile Log Debug Find Results Close
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\nagal\Documents\DAA\EXP-32.exe
- Output Size: 128.638671875 KiB
- Compilation Time: 0.20s
Done parsing in 0 seconds

40.


C:\Users\nagal\Documents\DAA\EXP-40.cpp - [Executing] - Dev-C++ 5.11
EXP-29.cpp EXP-30.cpp EXP-31.cpp EXP-32.cpp EXP-33.cpp EXP-37.cpp
#include <stdio.h>
#include <stdlib.h>
struct Node {
int data;
struct Node* next;
};
void insert_number(struct Node** head, int value) {
struct Node* new_node = (struct Node*)malloc(sizeof(struct Node));
new_node->data = value;
new_node->next = *head;
*head = new_node;
}
void print_list(struct Node* head) {
struct Node* temp = head;
while (temp != NULL) {
printf("%d -> ", temp->data);
temp = temp->next;
}
printf("NULL\n");
}
int main() {
struct Node* head = NULL;
insert_number(&head, 5);
insert_number(&head, 10);
insert_number(&head, 15);
printf("List after insertion: ");
print_list(head);
return 0;
}
C:\Users\nagal\Documents\D
List after insertion: 15 -> 10 -> 5 -> NULL
Process exited after 1.872 seconds with return value 0
Press any key to continue . . .
Compiler Resources Compile Log Debug Find Results Close
Shorten compiler paths
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\nagal\Documents\DAA\EXP-40.exe
- Output Size: 128.681640625 KiB
- Compilation Time: 0.17s
Done parsing in 0.031 seconds