Main.cpp

```cpp
#include "graph.h"
int main()
{
    graph G;
    adrVertex P;
    initGraph_103032330054(G);
    buildGraph_103032330054(G);
    P = G.firstVertex;
    while (P != NULL){
        cout << endl << P->idVertex;
        P = P->nextVertex;
    }
}
```

Graph.cpp

```cpp
#include "graph.h"
void createVertex_103032330054(char newVertexID, adrVertex &v){
    v->firstEdge = NULL;
    v->nextVertex = NULL;
    v->idVertex = newVertexID;
}
void initGraph_103032330054(graph &G){
    G.firstVertex = NULL;
}
void addVertex_103032330054(graph &G, char newVertexID){
    adrVertex P = new vertex;
    createVertex_103032330054(newVertexID, P);
    if (G.firstVertex == NULL){
        G.firstVertex = P;
    }else{
        P->nextVertex = G.firstVertex;
        G.firstVertex = P;
    }
}
void buildGraph_103032330054(graph &G){
    char input;
    cin >> input;
    adrVertex P;
    bool found = false;
    while (input >= 'A' && input <= 'Z'){
        P = G.firstVertex;
        while (P != NULL && !found ){
            if (P->idVertex == input){
                found = true;
            }else{
                P = P->nextVertex;
            }
        }
        if (!found){
            addVertex_103032330054(G, input);
            cin >> input;
        }else{
            cout << "Vertex sudah ada" << endl;
            cin >> input;
        }
    }
```

Graph.h

```cpp
#ifndef GRAPH_H_INCLUDED
#define GRAPH_H_INCLUDED
#include <iostream>
using namespace std;
typedef struct vertex *adrVertex;
typedef struct edge *adrEdge;
struct vertex{
    char idVertex;
    adrVertex nextVertex;
    adrEdge firstEdge;
};
struct edge{
    char destVertexId;
    int weight;
    adrEdge nextEdge;
};
struct graph{
    adrVertex firstVertex;
};
void createVertex_103032330054(char newVertexID, adrVertex &v);
void initGraph_103032330054(graph &G);
void addVertex_103032330054(graph &G, char newVertexID);
void buildGraph_103032330054(graph &G);
#endif // GRAPH_H_INCLUDED
```

Output

```
"D:\Kuliah\Semester 3\STD\Source-Code-Smt-3\Modul 11\TP11\b
A
B
C
A
Vertex sudah ada
1

C
B
A
Process returned 0 (0x0)   execution time : 6.273 s
Press any key to continue.
```