**NAMA : IMAM ALIF RAMADHAN**

**NIM : 5180711067**

**Program Modulus**

#include <iostream>

using namespace :: std ;

unsigned int modul (int angka, int ms)

{ if (ms==1)

return 0;

else

return angka % ms ;

}

main()

{

unsigned int angka, ms ;

cout <<"Masukkan untuk angka pertama : "; cin>>angka;

cout <<"Masukkan untuk angka kedua : "; cin>>ms;

cout <<"\nModulus : "; cout<<modul(angka,ms);

return 0 ;

}

**Program Bubble Sort (Ascending)**

#include <iostream>

#include <stdio.h>

#include <conio.h>

using namespace :: std ;

main ()

{ int i,j, b, k, m, n,x,z,ketemu=0;

int data['n'], temp[100];

cout<<"======================"<<endl;

cout<<"---BELAJAR SORTING---\n";

cout<<"======================"<<endl;

cout<<"\nInput Banyak Data: "; cin>>n;

for(i=0; i<n; i++)

{ cout<<"Data Ke-"<<i<<" : "; cin>>data[i];

}

cout<<"\n\n";

cout<<"Data Sebelum diurutkan"<<endl;

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

{ cout<<i+1<<".";

cout<<data[i]<<" ";

cout<<endl;

}

for (i=0; i<n; i++)

{ for (j=0; j<=i; j++)

{ if(data[i]<data[j])

{ m=data[i];

data[i]=data[j];

data[j]=m;

}

}

cout<<"\n#"<<i<<": ";

for(k=0; k<=i; k++)

{ cout<<" "<<data[k];

}

}

cout<<"\n\n";

cout<<"\nData Setelah Diurutkan (Ascending):"<<endl;

for(i=0; i<n; i++)

{ cout<<i+1<<".";

cout<<data[i]<<" "<<endl;

}

getch();

}

**Program Insertion Sorting (Descending )**

#include <iostream>

#include <stdio.h>

#include <conio.h>

using namespace :: std ;

main ()

{ int i,j, b, k, m, n,x,z,ketemu=0;

int data['n'], temp[100];

cout<<"======================"<<endl;

cout<<"---BELAJAR SORTING---\n";

cout<<"======================"<<endl;

cout<<"\nInput Banyak Data: "; cin>>n;

for(i=0; i<n; i++)

{ cout<<"Data Ke-"<<i<<" : "; cin>>data[i]; }

cout<<"\n\n";

cout<<"Data Sebelum diurutkan"<<endl;

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

{ cout<<i+1<<".";

cout<<data[i]<<" ";

cout<<endl;

}

for (i=0; i<n; i++)

{ for (j=0; j<=i; j++)

{ if(data[i]<data[j])

{ m=data[i];

data[i]=data[j];

data[j]=m;

}

}

cout<<"\n#"<<i<<": ";

for(k=0; k<=i; k++)

{ cout<<" "<<data[k];

}

}

for (i=0; i<n; i++)

{ for (j=0; j<=i; j++)

{ if(data[i]>data[j])

{ m=data[i];

data[i]=data[j];

data[j]=m;

}

}

cout<<"\n#"<<i<<": ";

for(k=0; k<=i; k++)

{ cout<<" "<<data[k];

}

}

cout<<"\n\n";

cout<<"\nData Setelah Diurutkan (Descending):"<<endl;

for(i=0; i<n; i++)

{ cout<<i+1<<".";

cout<<data[i]<<" "<<endl;

}

getch();

}