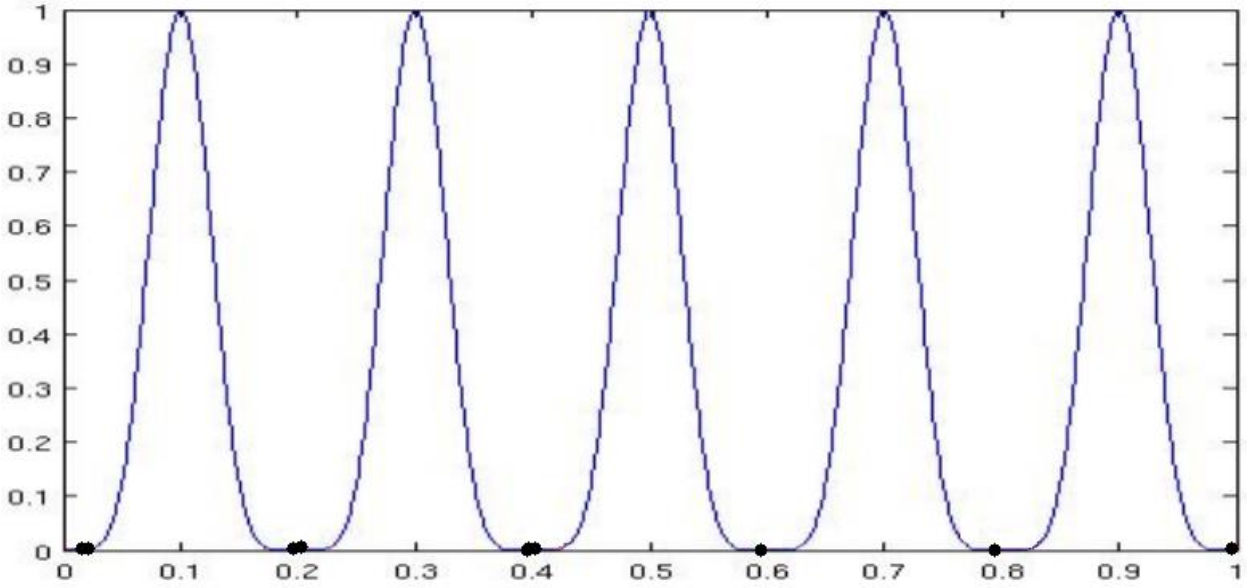
```cpp
#include <iostream>
#include <time.h>

using namespace std;

void main()
{
	int rodaki[20][10];
	int otbor[10][10];
	int temp,number;
	int cros,Num1,Num2;
	int   schetchik;
	double y[20],x[20],x1;

	srand(time(NULL));
	for (int i=0; i<20; i++)
	{
		for (int j=0; j<10; j++)
		{
			rodaki[i][j]=rand()%2;
		}
	}

	for (int i=0; i<20; i++)
	{
		x[i]=0;
		for (int j=0; j<10; j++)
		{
			x[i]+=rodaki[i][j]*pow(2.0,(9-j));
		}
		x[i]=x[i]/1023;
		y[i]=pow(sin(5*3.14*x[i]),6);
	}

	for (int i=0; i<19; i++)
	{
		if (y[i]>y[i+1])
		{
			x1=y[i];
			y[i]=y[i+1];
			y[i+1]=x1;
			for (int j=0; j<10; j++)
			{
				temp=rodaki[i][j];
				rodaki[i][j]=rodaki[i+1][j];
				rodaki[i+1][j]=temp;
			}
			i=0;
		}
	}

	FILE *pfile;
	pfile=fopen("itog.txt","w");

	for (int i=0; i<20; i++)
	{
		for (int j=0; j<10; j++)
		{
			cout<<rodaki[i][j]<<"  ";
		}
		cout<<endl;
	}
	cout<<endl<<endl;
```

```
number=0;
schetchik = 0;

do
{

	for (int i=0; i<20; i++)
	{
		fprintf(pfile,"\t%.10f\t%.10f\n",y[i],x[i]);
	}

	fprintf(pfile,"\n-------------------------------------------\n");



	for (int i=0; i<10; i++)
		for (int j=0; j<10; j++)
			otbor[i][j]=rodaki[i][j];


	for (int i=0; i<20; i++)
	{
		cros=rand()%8+1;
		Num1=rand()%10;
		Num2=rand()%10;
		for (int j=0; j<10; j++)
		{
			if (j<cros)
				rodaki[i][j]=otbor[Num1][j];
			else
				rodaki[i][j]=otbor[Num2][j];
		}
	}


	for (int i=0; i<20; i++)
	{
		x[i]=0;
		for (int j=0; j<10; j++)
		{
			x[i]+=rodaki[i][j]*pow(2.0,(9-j));
		}
		x[i]=x[i]/1023;
		y[i]=pow(sin(5*3.14*x[i]),6);
	}

	for (int i=0; i<19; i++)
	{
		if (y[i]>y[i+1])
		{
			x1=y[i];
			y[i]=y[i+1];
			y[i+1]=x1;
			for (int j=0; j<10; j++)
			{
				temp=rodaki[i][j];
				rodaki[i][j]=rodaki[i+1][j];
				rodaki[i+1][j]=temp;
			}
			i=0;
		}
	}
	number++;
```

```
	}

	while (number!=15);

	cout<<endl<<endl;
	cout<<"=====Number of iteration====="<<endl;
	cout<<number<<endl;
	cout<<"-----------------------------"<<endl;
	fprintf(pfile,"=======Number of iteration=======",number);

	for (int i=0; i<20; i++)
	{
		for (int j=0; j<10; j++)
		{
			cout<<rodaki[i][j]<<"  ";
		}

	cout<<endl;
	}
	fclose(pfile);
	system("pause");
}
```

15 iteration

0.400391
0.599609
0.599609
0.599609
0.598633
0.00195313
0.402344
0.602539
0.597656
0.603516
0.00390625
0.204102
0.205078
0.995117
0.993164
0.191406
0.612305
0.8125
0.1875
0.838867


1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1