

AVG	MIN
0,267582764	5,33E-08
0,198764323	9,5E-09
0,198697848	4,1E-09
0,104929429	0
0,083904412	0
0,062682086	0
0,076456505	0
0,062350234	0
3,77488E-06	0
5,12156E-05	0
3,39103E-05	0
9,10311E-07	0
0	0
0	0

Task 4 Kravchuk Maxim

$$y = \sin^6(5\pi x)$$



```

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

for (i=0; i<20; i++)
{
    for (j=0; j<10; j++)
    {
        cout<<parents[i][j]<<" ";
    }
    cout<<endl;
}
cout<<endl<<endl;
number=0;

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

    for (i=0; i<10; i++)
        for (j=0; j<10; j++)
            selection[i][j]=parents[i][j];
    for (i=0; i<20; i++)
    {
        cros=rand()%8+1;
    }
}

```

```

        Num1=rand()%10;
        Num2=rand()%10;
        for (j=0; j<10; j++)
        {
            if (j<cros)
                parents[i][j]=selection[Num1][j];
            else
                parents[i][j]=selection[Num2][j];
        }
    }

    for (i=0; i<20; i++)
    {
        x[i]=0;
        for (j=0; j<10; j++)
        {
            x[i]+=parents[i][j]*pow(2.0,(9-j));
        }
        x[i]=x[i]/1023;
        y[i]=pow(sin(5*3.14*x[i]),6);
    }
    for (i=0; i<19; i++)
    {
        if (y[i]>y[i+1])
        {
            x1=y[i];
            y[i]=y[i+1];
            y[i+1]=x1;
            for (j=0; j<10; j++)
            {
                temp=parents[i][j];
                parents[i][j]=parents[i+1][j];
                parents[i+1][j]=temp;
            }
            i=0;
        }
    }
    number++;

}

while (number!=15);
for (i=0; i<20; i++)
{
    for (j=0; j<10; j++)
    {
        cout<<parents[i][j]<<" ";
    }
    fprintf(pfile,"%t%.10ft%.10f\n",y[i],x[i]);
    cout<<endl;
}

```

```
}  
fclose(pfile);
```