Лабораторна робота №2

з Теорії ймовірності

Виконав студент групи ІО-01

Середенко Андрій

**package** com.lab2;

**public** **class** Main {

**public** **static** **void** main(String[] args) {

**double** m = 3.0;

**double** a = 2.0;

Generator G = **new** Generator();

G.gen();

G.Myformula(m, a);

**for** (**int** i = 0; i < 5000; i++) {

System.*out*.println("r["+i+"]"+G.getr(i)+"; R["+i+"] = "+G.getR(i));

}

**double** D = a\*a/3;

System.*out*.println("D = "+D);

**double** Sigma = Math.*sqrt*(D);

System.*out*.println("Sigma= " + Sigma);

System.*out*.println("Математичне очікування: " + G.Ex\_value());

}

}

**package** com.lab2;

**import** java.util.Random;

**public** **class** Generator {

**public** **double** [] r = **new** **double**[5000];

**public** **double** [] R = **new** **double**[5000];

**public** **double** sum\_R=0;

**public** **double** getR(**int** i){

**return** **this**.R[i];

}

**public** **double** getr(**int** i){

**return** **this**.r[i];

}

**public** **void** gen(){

Random rand = **new** Random();

**for** (**int** i = 0; i < 5000; i++) {

r[i] = (rand.nextDouble());

}

}

**public** **void** Myformula (**double** m, **double** a){

**for** (**int** i=0; i<5000;i++){

R[i]=2\*Math.*sqrt*(2\*r[i]) + m - a;

sum\_R +=R[i];

}

}

**public** **double** Ex\_value(){

**return** sum\_R/5000;

}

}

r[4940]0.18058356279154641; R[4940] = 2.2019436352559847

r[4941]0.8398669114814868; R[4941] = 3.5920909111857737

r[4942]0.6002066848644497; R[4942] = 3.1912675507376083

r[4943]0.6210948732246029; R[4943] = 3.2290713281088212

r[4944]0.29119947821457093; R[4944] = 2.526301354817117

r[4945]0.9640843212989416; R[4945] = 3.7771702451220976

r[4946]0.6501273555976492; R[4946] = 3.2805742357531784

r[4947]0.9124226185613532; R[4947] = 3.701736654170947

r[4948]0.30997333800261506; R[4948] = 2.5747338518050977

r[4949]0.8931150529288696; R[4949] = 3.6729983957030274

r[4950]0.3464805902128826; R[4950] = 2.664885798396713

r[4951]0.31275789101272644; R[4951] = 2.5817911139280723

r[4952]0.8824792299165356; R[4952] = 3.6570347832371866

r[4953]0.37557107346771923; R[4953] = 2.7333691435299503

r[4954]0.29113300775142925; R[4954] = 2.5261271447724907

r[4955]0.11666993142426707; R[4955] = 1.9661053003654088

r[4956]0.8553563108396661; R[4956] = 3.615884264778801

r[4957]0.7230307075808549; R[4957] = 3.4050458749568246

r[4958]0.47515287912301707; R[4958] = 2.949672545066001

r[4959]0.6594633620111437; R[4959] = 3.2968907018160767

r[4960]0.5626659610721485; R[4960] = 3.121633259679247

r[4961]0.6394610017376124; R[4961] = 3.2617886757831513

r[4962]0.8772824997129731; R[4962] = 3.649199878775436

r[4963]0.9335884661872522; R[4963] = 3.7328936549924547

r[4964]0.7468019746340316; R[4964] = 3.444261810255246

r[4965]0.1342671456438448; R[4965] = 2.0364058882265956

r[4966]0.9276916792066944; R[4966] = 3.7242491504364192

r[4967]0.17919630842031764; R[4967] = 2.1973180310020144

r[4968]0.5756540648013994; R[4968] = 3.14598054940188

r[4969]0.9506394951539987; R[4969] = 3.757737471412387

r[4970]0.24060734412602858; R[4970] = 2.387392789734842

r[4971]0.02943589855889106; R[4971] = 1.4852702221145746

r[4972]0.046826852519030515; R[4972] = 1.6120578568666888

r[4973]0.49653386243129194; R[4973] = 2.9930556689290784

r[4974]0.8641406408292908; R[4974] = 3.629282245525255

r[4975]0.9873791444794363; R[4975] = 3.8105218653900366

r[4976]0.18006770317665566; R[4976] = 2.2002256560385822

r[4977]0.3525340859759205; R[4977] = 2.6793667520251088

r[4978]0.9216099173585479; R[4978] = 3.715304649365957

r[4979]0.23899858271218266; R[4979] = 2.3827467814815053

r[4980]0.7906588044221791; R[4980] = 3.515009032861996

r[4981]0.049010341281532255; R[4981] = 1.626165098238682

r[4982]0.9258838378909107; R[4982] = 3.721593412530109

r[4983]0.06541227758009849; R[4983] = 1.7233935447878892

r[4984]0.30937984176682864; R[4984] = 2.573225582723161

r[4985]0.954400503577076; R[4985] = 3.763187295247394

r[4986]0.2367463556762467; R[4986] = 2.376216133247236

r[4987]0.40764879224495765; R[4987] = 2.8058766120529004

r[4988]0.06874988409753269; R[4988] = 1.7416192235778825

r[4989]0.7971060810388922; R[4989] = 3.5252422949711457

r[4990]0.10101076294326328; R[4990] = 1.898936095362794

r[4991]0.4584746076419869; R[4991] = 2.9151493051811634

r[4992]0.7106079705430615; R[4992] = 3.384295234308137

r[4993]0.5554081592666297; R[4993] = 3.1079054234317622

r[4994]0.4660877514567683; R[4994] = 2.9309847258987176

r[4995]0.5083653223850652; R[4995] = 3.016661245494771

r[4996]0.8866939713434868; R[4996] = 3.663372255383745

r[4997]0.19297303175267544; R[4997] = 2.24249114846803

r[4998]0.28993778055461794; R[4998] = 2.522991216139129

r[4999]0.6564907510645832; R[4999] = 3.2917080984533493

D = 1.3333333333333333

Sigma= 1.1547005383792515

Математичне очікування: 2.904459683901978