

1. O'rtacha absolyut chetlanish formulasi...

✓
$$\theta = \frac{\sum n_i |x_i - \bar{x}_T|}{\sum n_i}$$

2. Butun to'plam belgisi qiymatlarining umumiy o'rtacha qiymatga nisbatan dispersiyasiga..... aytiladi

✓ Umumiy dispersiya

3. Korrelyasiya koeffisienti formulasi..

✓
$$r_T = \frac{\sum n_{xy}xy - n\bar{x}\bar{y}}{n\sigma_x\sigma_y}$$

4. 5, 5, 4, 6, 5, 4, 6, 6, 9, 7, 10, 5, 6, 10, 7, 4, 4, 5, 4, 7, 5, 4, 6, 6, 5, 6, 10, 6, 5, 5 tanlanma berilgan bo'lsin. Tanlanmaning o'rta qiymatini toping.

✓ 5,9

5. Gruppaviy dispersiyalarning gruppalar hajmlariga teng bo'lgan vaznlar bilan olingan arifmetik o'rtacha qiymatiga..... aytiladi:

✓ Gruppachi dispersiya

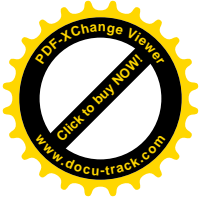
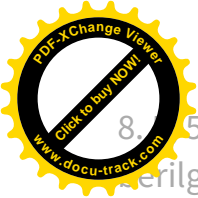
6. n=41 hajmli tanlanma bo'yicha bosh to'plam dispersiyasining Dt=3 siljigan bahosi topilgan. Bosh to'plam dispersiyasining siljimagan bahosini toping.

✓ S²=3,075

7. n=20 hajmli tanlanmaning berilgan taqsimoti bo'yicha tanlanma o'rtacha qiymatini toping:

x_i	2560	2600	2620	2650	2700
n_i	2	3	10	4	1

✗ 3761



8. 5, 4, 6, 5, 4, 6, 6, 9, 7, 10, 5, 6, 10, 7, 4, 4, 5, 4, 7, 5, 4, 6, 6, 5, 6, 10, 6, 5, 5 tanlanma berilgan bo'lsin. Tanlanmaning dispersiyasini toping.

✗ 0,27

9. Bosh to'plamdan $n=50$ hajmli tanlanma olingan:

x_i	2	5	7	10
n	16	12	8	14

bosh to'plam matematik kutilmasining siljimagani bahosini toping.

✓ 5,76

10. $n=50$ hajmli tanlanmaning berilgan taqsimoti bo'yicha tanlanma dispersiyasini toping.

x_i :	0,1	0,5	0,6	0,8
n_i :	5	15	20	10

✓ 0,32

11. Tanlanma chastotalar quyidagicha taqsimot qonuni bilan berilgan:

x_i -	1	0	1	2	3
k_i	10	5	20	10	5

tanlanma dispersiyasi D ni toping.

✓ 1,49

12. $n=16$ hajmli tanlanmaning berilgan taqsimoti bo'yicha tanlanma dispersiyasini toping.

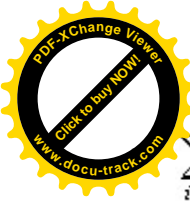
x_i	0,01	0,04	0,08
n_i	5	3	8

✗ 0,0006

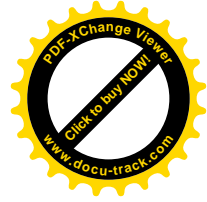
13. Shartli variantlar uchun hisoblangan k -tartibli boshlang'ich momentgaaytiladi

✗ k -tartibli boshlabg'ich empirik dispersiya

14. x_1, x_2, \dots, x_n tanlanma berilgan bo'lsin. Tanlanma o'rta qiymati uchun quyidagilardan qaysi biri to'g'ri



$$\sum_{i=1}^n (x_i - \bar{x}) = 0$$



15. Statistika bog'liklik miqdorlardan birining o'zgarishi ikkinchisining o'rtacha qiymatini o'zgarishida ko'rinadi; bu holda statistik bog'lanishbog'lanish deb ataladi.

✗ k-tartibli markaziy empirik moment

16. Absolyut chetlanishlarning o'rtacha arifmetik qiymatigaaytiladi

✗ O'rtacha absolyut qiymat

17. X va Y tasodifiy miqdorlar orasidagi korrelyatsion bog'lanish $k=0,8$, o'rta kvadratik og'ishlar $\sigma_x=5$, $\sigma_y=10$ ga teng bo'lsa. Y ning X dagi regressiya koeffitsientini toping

✓ 1,6

18. O'rtacha kvadratik chetlanishi σ noma'lum bolganda matematik kutilishini baholash uchun ishonchli intervallar qanday

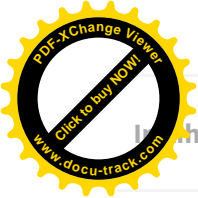
$$\times P\left(\left|\frac{\bar{X}-a}{\frac{S}{\sqrt{n}}}\right| < t_y\right) = 2 \int_0^{t_y} S(t,n) dt = y$$

19. Statistika so'zi ma'nosi nimani anglatadi.

✓ lotincha so'zdan olingan bo'lib, holat, vaziyat

20. Matematika bo'yicha 10 ta talaba test sinovlarini topshirmoqda. Har bir talaba 5 ballgacha to'plash mumkin. Test natijalariga ko'ra quyidagi tanlanma olindi: 5, 3, 0, 1, 4, 2, 5, 4, 1, 5. Dispersiyani toping.

✓ 1,79



4-KURS Amaliy matematika va informatika yo`nalishiga 8-semestr Extimollar nazariyasi va matematik statistika fanidan yakuniy nazorat

Talaba ERGASHOV SAIDJON RAXMIDDIN O'G'LI

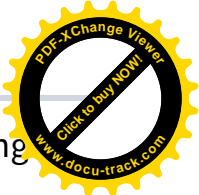
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Boshlandi 01.04.2022 14:58

Tugadi 01.04.2022 15:29

To'g'ri 13

Foiz 65.0



1. O'rtacha tanlanma kvadratik chetlanishning o'rtacha tanlanma qiymatga nisbatining protsentlarda ifodalanganigaaytiladi:

✓ Variatsiya koeffitsiyenti

2. Bosh to'plamdan $n=60$ hajmli tanlanma olingan:

x_i	1	3	6	26
n	8	40	10	2

Bosh to'plam matematik kutilmasining siljimagani bahosini toping.

✓ 4

3. x_1, x_2, \dots, x_n tanlanma berilgan bo'lsin. Tanlanma o'rta qiymati uchun quyidagilardan qaysi biri to'g'ri

✓ $\sum_{i=1}^n (x_i - \bar{x}) = 0$

4. Agar tanlanma to'plam bosh to'plamni deyarli barcha xususiyatlarini o'zida saqlasa, u holda bunday tanlanma deyiladi.

✓ reprezentativ (vakolatli) tanlanma

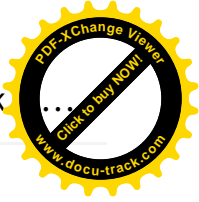
5. $n=20$ hajmli tanlanmaning berilgan taqsimoti bo'yicha tanlanma o'rtacha qiymatini toping:

x_i	2560	2600	2620	2650	2700
n_i	2	3	10	4	1

✓ 2621

6. Tanlanmaning shunday minimal hajmini topingki, bosh to'plamni a matematik kutilmasining tanlanma o'rtacha qiymat bo'yicha 0,975 ishonchlilik bilan bahosining aniqligi $\delta=0,3$ ga teng bo'lsin. Normal taqsimlangan bosh to'plamning o'rtacha kvadratik chetlanishi ma'lum: $\sigma=1,2$

✓ $n=81$



7. Tanlanmaning son o'qida qanchalik uzoqlikda joylashganligini ko'rsatuvchi kattalik

✓ tanlanma qulochi

8. Korrelyasiya koeffisienti formulasi..

✓
$$r_T = \frac{\sum n_{xy}xy - n\bar{x}\bar{y}}{n\sigma_x\sigma_y}$$

9. $u_i = \frac{x_i - C}{h}$ tenglik bilan aniqlanadigan variantalarga aytiladi, bu yerda C-soxta nol

(yangi sanoq boshi), h-qadam, ya'ni istalgan ikkita qo'shni dastlabki varianta orasidagi farq (yangi masshtab birligi).

✓ Shartli varianmalar

10. Ishonchlilik ehtimolligi formulasi...

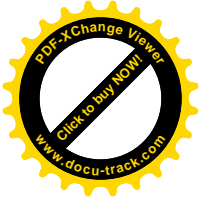
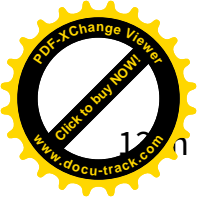
✓
$$P(|\theta^* - \theta| < \delta) = \gamma$$

11. Ko'p sondagi elektr lampalar partiyasidan olingan tanlanmada 100 ta lampa bor. Tanlanmadagi lampaning o'rtacha yonish davomiyligi 1000 soatga teng bo'lib chiqdi. Lampaning o'rtacha yonish davomiyligining o'rtacha kvadratik chetlanishi $\sigma=40$ soat ekanligi ma'lum. Jami partiyadagi lampaning o'rtacha yonish davomiyligi α ni 0,95 ishonchlilik bilan baholash uchun ishonchlilik intervalini toping.

✓ $992,16 < \alpha < 1007,84$

12. Statistik bog'liklik miqdorlardan birining o'zgarishi ikkinchisining o'rtacha qiymatini o'zgarishida ko'rinadi; bu holda statistik bog'lanishbog'lanish deb ataladi.

✓ korrelyatsion



17. n hajmli tanlanma chastotalar taqsimoti berilgan ($k_1+k_2+\dots+k_n=n$): $\frac{x_1 | x_2 | \dots | x_n |}{k_1 | k_2 | \dots | k_n |}$

Uchinchi tartibli markaziy empirik momentni (\bar{m}_3) hisoblash formulasi qaysi javobda to'g'ri berilgan

✓
$$\bar{m}_3 = \frac{\sum_{i=1}^n k_i (x_i - \bar{x})^3}{n}$$

14. Tanlanmaningdeb variantalar va ularga mos chastotalar yoki nisbiy chastotalardan iborat ushbu jadvalga aytiladi:

✓ statistik yoki empirik taqsimoti

15. 5, 5, 4, 6, 5, 4, 6, 6, 9, 7, 10, 5, 6, 10, 7, 4, 4, 5, 4, 7, 5, 4, 6, 6, 5, 6, 10, 6, 5, 5 tanlanma berilgan bo'lsin. Tanlanmaning dispersiyasini toping.

✓ 0,29

16. Statistika so'zi ma'nosi nimani anglatadi.

✓ lotincha so'zdan olingan bo'lib, holat, vaziyat

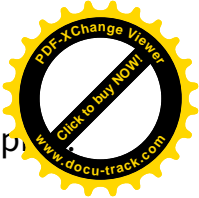
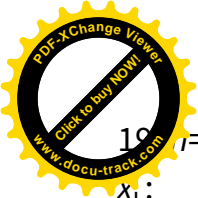
17. n hajmli tanlanma chastotalar taqsimoti berilgan ($k_1 + k_2 + \dots + k_n = n$):

$\frac{x_1 | x_2 | \dots | x_n |}{k_1 | k_2 | \dots | k_n |}$ Ikkinchi tartibli markaziy empirik momentni (\bar{m}_2) hisoblash formulasi qaysi javobda to'g'ri berilgan.

✓
$$\bar{m}_2 = \frac{\sum_{i=1}^n k_i (x_i - \bar{x})^2}{n}$$

18. Matematik statistikaning asosiy masalalari qanday

✓ noparametrik baholash nazariyasi, parametrik baholash, statistik gipotezalarni tekshirish



19. $n=50$ hajmli tanlanmaning berilgan taqsimoti bo'yicha tanlanma dispersiyasini top

x_i : 0,1 0,5 0,6 0,8
 n_i : 5 15 20 10

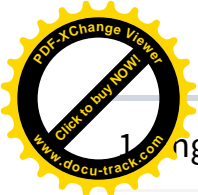
✓ 0,32

20. Tanlanmaning quyida berilgan taqsimoti bo'yicha uning empirik funksiyasini tuzing:

x_i 2 6 10
 n_i 12 18 30

✓ $F^*(x) = \begin{cases} x \leq 2 & da \ 0 \\ 2 < x \leq 6 & da \ 0,2 \\ 6 < x \leq 10 & da \ 0,5 \\ x > 10 & da \ 1 \end{cases}$

Imtihon	4-KURS Amaliy matematika va informatika yo`nalishiga 8-semestr Extimollar nazariyasi va matematik statistika fanidan yakuniy nazorat
Talaba	MA'MUROVA DILSHODAXON AKHRORJON QIZI
Guruh	18.06.
Boshlandi	01.04.2022 14:59
Tugadi	01.04.2022 15:29
To'g'ri	20
Foiz	100.0



1. Eng kichik va eng katta variantalar ayirmasiga..... aytiladi

✓ Variatsiya qulochi

2. $c = \bar{x}_T$ bo'lgandagi k-tartibli oddiy momentgaaytiladi:

✗ k-tartibli oddiy empirik moment

3. Tanlanmaning quyida berilgan taqsimoti bo'yicha uning empirik funksiyasini tuzing: x_i

2 6 10

n_i 12 18 30

✓
$$F^*(x) = \begin{cases} x \leq 2 & \text{da } 0 \\ 2 < x \leq 6 & \text{da } 0,2 \\ 6 < x \leq 10 & \text{da } 0,5 \\ x > 10 & \text{da } 1 \end{cases}$$

4. X va Y tasodifiy miqdorlar orasidagi korrelyatsion bog'lanish $k=0,8$, o'rta kvadratik og'ishlar $\sigma_x=5$, $\sigma_y=10$ teng bo'lsa X ning Y dagi regressiya koeffitsientini toping.

✓ 0,4

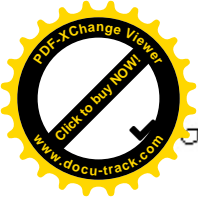
5. Agar bosh to'plamdan bitta element ajratib olinsa va uning xususiyatlarini qayd qilingach elementni bosh to'plamga qaytarilsa va bundan so'ng ikkinchi elementni tekshirib, uni ham bosh to'plamga qaytarilsa va shu tariqa hajmi k ga teng tanlanma hosil qilinsa, bunday tanlanmadeyiladi.

✓ takroriy tanlanma

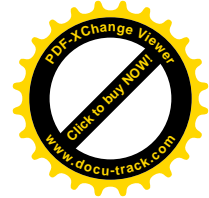
6. Agar tanlanma to'plam bosh to'plamni deyarli barcha xususiyatlarini o'zida saqlasa, u holda bunday tanlanma deyiladi.

✓ reprezentativ (vakolatli) tanlanma

7. Tanlanma o'rtacha kvadratik chetlanish.....



$$\sigma = \sqrt{D_T}$$



8. Tanlanmaningdeb variantalar va ularga mos chastotalar yoki nisbiy chastotalardan iborat ushbu jadvalga aytiladi:

✓ statistik yoki empirik taqsimoti

9. Bosh to'plamdan $n=60$ hajmli tanlanma olingan:

x_i	1	3	6	26
n	8	40	10	2

Bosh to'plam matematik kutilmasining siljimagani bahosini toping.

✓ 4

10. Quyidagi empirik taqsimot berilgan:

x_i :	1	5	7
n_i	12	18	30

Empirik taqsimot funksiyasini toping.

✓
$$F_{60}^*(x) = \begin{cases} 0, & x \leq 1, \\ 0,2, & 1 < x \leq 5, \\ 0,5, & 5 < x \leq 7, \\ 1, & x > 7. \end{cases}$$

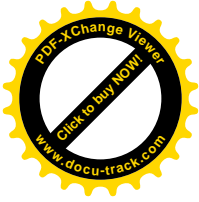
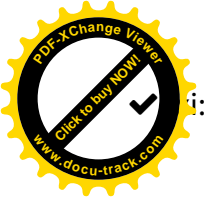
11. Variatsion qatorningdeb, eng ko'p uchraydigan variantaga aytiladi.

✓ Moda

12. O'rtacha kvadratik chetlanishi σ noma'lum bolganda matematik kutilishini baholash uchun ishonchli intervallar qanday

✗
$$P(s - \delta < \sigma < s + \delta) = \gamma$$

13. 5, 5, 4, 6, 5, 4, 6, 6, 9, 7, 10, 5, 6, 10, 7, 4, 4, 5, 4, 7, 5, 4, 6, 6, 5, 6, 10, 6, 5, 5 tanlanma berilgan bo'lsin. Tanlanmaning statistik taqsimotini toping.



14. Korrelyatsiya nazariyasining asosiy masalasi

- ✓ Korrelyatsiya nazariyasining ikkinchi masalasi - korrelyatsion bog'lanishning zichligini (kuchini) aniqlashidir;

15. Matematik statistikaning asosiy masalalari qanday

- ✓ noparametrik baholash nazariyasi, parametrik baholash, statistik gipotezalarni tekshirish

16. Empirik taqsimot funksiyaning xossalari qanday

- ✓ $0 \leq F_n^*(x) \leq 1$

17. xi-1ayirmalar k-darajalarining o'rtacha qiymatiga..... aytiladi

- ✗ Javob belgilanmagan

18. X va Y tasodifiy miqdorlar orasidagi korrelyatsion bog'lanish $k=0,8$, o'rta kvadratik og'ishlar $\sigma_x=5$, $\sigma_y=10$ ga teng bo'lsa. Y ning X dagi regressiya koeffitsientini toping

- ✓ 1,6

19. Bosh to'plam quyidagi taqsimot jadvali bilan berilgan:

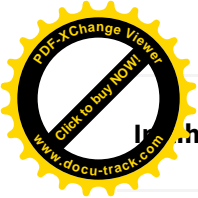
x_i	2	4	5	6
N_i	8	9	10	3

Bosh dispersiyani toping.

- ✓ 1,8

20. Y ning $X=x$ qiymatga mos qiymatlarining arifmetik o'rtacha qiymatigaaytiladi

- ✓ Shartli o'rtacha qiymat \bar{y}_x



4-KURS Amaliy matematika va informatika yo`nalishiga 8-semestr Extimollar nazariyasi va matematik statistika fanidan yakuniy nazorat

Talaba A'ZAMOVA BAXTIGUL AVAZJON QIZI

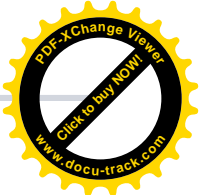
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Boshlandi 01.04.2022 14:58

Tugadi 01.04.2022 15:28

To'g'ri 17

Foiz 85.0



1. X va Y tasodifiy miqdorlar orasidagi korrelyatsion bog'lanish $k=0,8$, o'rta kvadratik og'ishlar $\sigma_x=5$, $\sigma_y=10$ teng bo'lsa X ning Y dagi regressiya koeffitsientini toping.

✓ 0,4

2. Variatsiya koeffitsiyenti formulasi..

✓
$$V = \frac{\sigma_r}{\bar{x}_r} \cdot 100\%$$

3. Eng katta chastotaga ega bo'lgan variantaga.... aytiladi

✓ Moda

4. Bosh to'plamdan $n=50$ hajmli tanlanma olingan:

x_i	2	5	7	10
n	16	12	8	14

bosh to'plam matematik kutilmasining siljimagani bahosini toping.

✓ 5,76

5. O'rtacha kvadratik chetlanishi ma'lum bolganda matematik kutilishini baholash uchun ishonchli intervallar qanday

✗ 2

6. $n=50$ hajmli tanlanmaning berilgan taqsimoti bo'yicha tanlanma dispersiyasini toping.

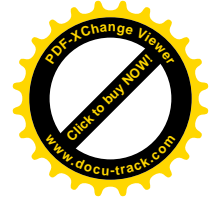
x_i :	0,1	0,5	0,6	0,8
n_i :	5	15	20	10

✓ 0,32

7. x_1, x_2, \dots, x_n tanlanma berilgan bo'lsin. Tanlanma o'rta qiymati uchun quyidagilardan qaysi biri to'g'ri



$$\sum_{i=1}^n (x_i - \bar{x}) = 0$$



8. $n=16$ hajmli tanlanmaning berilgan taqsimoti bo'yicha tanlanma dispersiyasini toping.

x_i	0,01	0,04	0,08
n_i	5	3	8

✓ 0,0007

9. $n=41$ hajmli tanlanma bo'yicha bosh to'plam dispersiyasining $Dt=3$ siljigan bahosi topilgan. Bosh to'plam dispersiyasining siljimagan bahosini toping.

✓ $S^2=3,075$

10. Ishonchlilik ehtimolligi formulasi...

✓ $P(|\theta^* - \theta| < \delta) = \gamma$

11. Tanlanma chastotalar taqsimoti qonuni bilan berilgan:

x_i	-10	0	10	20	30
k_i	5	5	20	10	10

tanlanma o'rtacha qiymatini \bar{x} ni toping

✓ 13

12. Statistik bog'liklik miqdorlardan birining o'zgarishi ikkinchisining o'rtacha qiymatini o'zgarishida ko'rinadi; bu holda statistik bog'lanishbog'lanish deb ataladi.

✓ korrelyatsion

13. Empirik taqsimot funksiyaning xossalari qanday

✓ $F_n^*(x)$ – kamaymaydigan funksiya;

14. 5, 4, 6, 5, 4, 6, 6, 9, 7, 10, 5, 6, 10, 7, 4, 4, 5, 4, 7, 5, 4, 6, 6, 5, 6, 10, 6, 5, 5 tanlanma berilgan bo'lsin. Tanlanmaning o'rta qiymatini toping.

✓ 5,9

15. Bosh to'plamning normal taqsimlangan X belgisining noma'lum a matematik kutilmasini 0,95 ishonchlilik bilan baholash uchun ishonchlilik intervalini toping. Bosh to'plam o'rtacha kvadratik chetlanish $\sigma=5$, tanlanma o'rtacha qiymat $\bar{x}=14$ va tanlanma hajmi $n=25$ berilgan

✗ $12,34 < a < 16,46$

16. Korrelyatsiya nazariyasining asosiy masalasi

✓ Korrelyatsiya nazariyasining birinchi masalasi korrelyatsion bog'lanishi formasini aniqlash;

17. O'rtacha kvadratik chetlanishi σ noma'lum bolganda matematik kutilishini baholash uchun ishonchli intervallar qanday

✗ $P(s - \delta < \sigma < s + \delta) = \gamma$

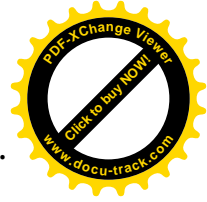
18. Statistik analiz qilish uchun tasodifiy tanlab olingan to'plamdeyiladi.

✓ tanlanma to'plam

19. n hajmli tanlanma chastotalar taqsimoti berilgan ($k_1+k_2+\dots+k_n=n$): $\frac{x_1 | x_2 | \dots | x_n}{k_1 | k_2 | \dots | k_n}$

Uchinchi tartibli markaziy empirik momentni (\bar{m}_3) hisoblash formulasi qaysi javobda to'g'ri berilgan

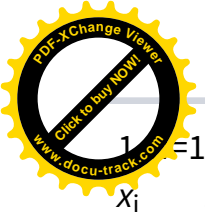
✓
$$\bar{m}_3 = \frac{\sum_{i=1}^n k_i (x_i - \bar{x})^3}{n}$$



20. O'p sondagi elektr lampalar partiyasidan olingan tanlanmada 100 ta lampa bor. Tanlanmadagi lampaning o'rtacha yonish davomiyligi 1000 soatga teng bo'lib chiqdi. Lampaning o'rtacha yonish davomiyligining o'rtacha kvadratik chetlanishi $\sigma=40$ soat ekanligi ma'lum. Jami partiyadagi lampaning o'rtacha yonish davomiyligi α ni 0,95 ishonchlilik bilan baholash uchun ishonchlilik intervalini toping.

✓ 992,16<<1007,84

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Talaba	BOHODIROV BAXTIYORJON BAXROMJON O'G'LI
Guruh	18.06.
Boshlandi	01.04.2022 15:02
Tugadi	01.04.2022 15:30
To'g'ri	17
Foiz	85.0



1. $n=100$ hajmli tanlanmaning berilgan taqsimoti bo'yicha tanlanma dispersiyasini toping.

x_i	2502	2804	2903	3028
n_i	8	30	60	2

✗ 12506

2. O'rtacha absolyut chetlanish formulasi...

✓
$$\theta = \frac{\sum n_i |x_i - \bar{x}_T|}{\sum n_i}$$

3. Tanlanmaning son o'qida qanchalik uzoqlikda joylashganligini ko'rsatuvchi kattalik.....

✓ tanlanma qulochi

4. n hajmli tanlanma chastotalar taqsimoti berilgan ($k_1 + k_2 + \dots + k_n = n$):

$\frac{x_1 | x_2 | \dots | x_n}{k_1 | k_2 | \dots | k_n}$ Ikkinchi tartibli markaziy empirik momentni (\bar{m}_2) hisoblash formulasi qaysi

javobda to'g'ri berilgan.

✓
$$\bar{m}_2 = \frac{\sum_{i=1}^n k_i (x_i - \bar{x})^2}{n}$$

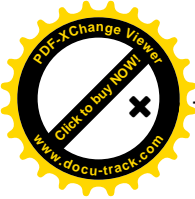
5. Tanlanma chastotalar taqsimoti qonuni bilan berilgan:

x_i	-1	0	1	2	3
k_i	5	5	5	5	30

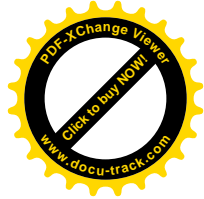
tanlanma o'rta kvadratik og'ishini hisoblang.

✗ 2

6. Shartli variantalar uchun hisoblangan k -tartibli boshlang'ich momentgaaytiladi



tartibli boshlabg'ich empitik moment



7. Korrelyatsiya nazariyasining asosiy masalasi

- ✓ Korrelyatsiya nazariyasining birinchi masalasi korrelyatsion bog'lanishi formasini aniqlash;

8. $n=20$ hajmli tanlanmaning berilgan taqsimoti bo'yicha tanlanma o'rtacha qiymatini toping:

x_i	2560	2600	2620	2650	2700
n_i	2	3	10	4	1

- ✓ 2621

9. Miqdorlardan birining o'zgarishi ikkinchisining taqsimoti o'zgarishiga olib keladigan bog'lanish

- ✗ korrelyatsion bog'lanish

10. $u_i = \frac{x_i - C}{h}$ tenglik bilan aniqlanadigan variantalarga aytiladi, bu yerda C-soxta nol

(yangi sanoq boshi), h-qadam, ya'ni istalgan ikkita qo'shni dastlabki varianta orasidagi farq (yangi masshtab birligi).

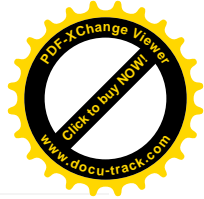
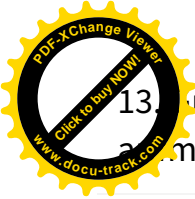
- ✓ Shartli varianmalar

11. Tuzatilgan dispersiya formulasi

- ✓
$$s = \sqrt{\frac{\sum_{i=1}^k n_i (X_i - \bar{X}_T)^2}{n-1}}$$

12. Belgining gruppaga tegishli qiymatlarining arifmetik o'rtacha qiymati:

- ✓ Gruppaviy o'rtacha qiymat



13. Gruppaviy dispersiyalarning gruppalar hajmlariga teng bo'lgan vaznlar bilan olingan arifmetik o'rtacha qiymatiga..... aytiladi:

✗ Gruppaviy dispersiya

14. Gruppaviy o'rtacha qiymatlarning umumiy o'rtacha qiymatga nisbatan dispersiyasiga..... Aytiladi

✗ Gruppaviy dispersiya

15. O'rtacha tanlanma kvadratik chetlanishning o'rtacha tanlanma qiymatga nisbatining protsentlarda ifodalanganigaaytiladi:

✓ Variatsiya koeffitsiyenti

16. Absolyut chetlanishlarning o'rtacha arifmetik qiymatigaaytiladi

✓ O'rtacha absolyut chetlanish

17. Bosh to'plamdan $n=60$ hajmli tanlanma olingan:

x_i	1	3	6	26
n	8	40	10	2

Bosh to'plam matematik kutilmasining siljimagan bahosini toping.

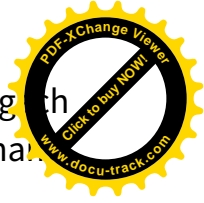
✓ 4

18. Korrelyatsiya nazariyasining asosiy masalasi

✓ Korrelyatsiya nazariyasining ikkinchi masalasi - korrelyatsion bog'lanishning zichligini (kuchini) aniqlashidir;

19. Tanlanma o'rtacha kvadratik chetlanish.....

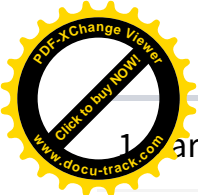
✓ $\sigma = \sqrt{D_T}$



20. Agar bosh to'plamdan bitta element ajratib olinsa va uning xususiyatlarini qayd qilingan elementni bosh to'plamga qaytarilsa va bundan so'ng ikkinchi elementni tekshirib, uni ham bosh to'plamga qaytarilsa va shu tariqa hajmi k ga teng tanlanma hosil qilinsa, bunday tanlanmadeyiladi.

✓ takroriy tanlanma

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Guruh	18.06.
Boshlandi	01.04.2022 14:23
Tugadi	01.04.2022 14:53
To'g'ri	14
Foiz	70.0



1. Variatsiya koeffitsiyenti formulasi..

✘ $\theta = \frac{\sum n_i |x_i - \bar{x}_T|}{\sum n_i}$

2. Tanlanmaningdeb variantalar va ularga mos chastotalar yoki nisbiy chastotalardan iborat ushbu jadvalga aytiladi:

✓ statistik yoki empirik taqsimoti

3. Tanlanma to'plam ushbu taqsimot jadvali orqali berilgan

x_i 1 2 3 4

n_i 20 15 10 5 Tanlanma dispersiyani toping.

✓ 1

4. Berilgan tanlanma uchun empirik taqsimot funksiyasini toping: 3, 3, 4, 4, 5, 5, 5, 5, 5, 7, 7, 7, 7, 9, 10, 10, 10

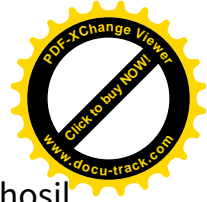
✓ $F_{20}^*(x) = \begin{cases} 0, & x \leq 3, \\ 0,1, & 3 < x \leq 4, \\ 0,25, & 4 < x \leq 5, \\ 0,5, & 5 < x \leq 7, \\ 0,75, & 7 < x \leq 9, \\ 1, & x > 9. \end{cases}$

5. O'rtacha kvadratik chetlanishi ma'lum bolganda matematik kutilishini baholash uchun ishonchli intervallar qanday

✘ 4

6. X va Y tasodifiy miqdorlar orasidagi korrelyatsion bog'lanish $k=0,8$, o'rta kvadratik og'ishlar $\sigma_x=5$, $\sigma_y=10$ teng bo'lsa X ning Y dagi regressiya koeffitsientini toping.

✓ 0,4



7. Agar bosh to'plamdan bitta element ajratib olinsa va uning xususiyatlarini qayd qilinsa, bunday tanlanmadeyiladi.

✓ takroriy tanlanma

8. Tanlanmaning shunday minimal hajmini topingki, bosh to'plamni a matematik kutilmasining tanlanma o'rtacha qiymat bo'yicha 0,975 ishonchlilik bilan bahosining aniqligi $\delta=0,3$ ga teng bo'lsin. Normal taqsimlangan bosh to'plamning o'rtacha kvadratik chetlanishi ma'lum: $\sigma=1,2$

✓ $n=81$

9. Quyidagi empirik taqsimot berilgan:

x_i :	1	5	7
n_i	12	18	30

Empirik taqsimot funksiyasini toping.

✓
$$F_{\text{em}}^*(x) = \begin{cases} 0, & x \leq 1, \\ 0,2, & 1 < x \leq 5, \\ 0,5, & 5 < x \leq 7, \\ 1, & x > 7. \end{cases}$$

10. Tanlanma chastotalar taqsimoti normal taqsimotga tegishla deb hisoblat, berilgan jadvaldagi ma'lumotlar bo'yicha noma'lum parametr σ^2 dispersiya uchun siljimagan bahoni toping: x_i -10 0 10 20 30

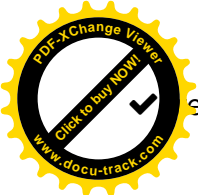
k_i	10	10	10	10	10
-------	----	----	----	----	----

✓ 200

11. 5, 5, 4, 6, 5, 4, 6, 6, 9, 7, 10, 5, 6, 10, 7, 4, 4, 5, 4, 7, 5, 4, 6, 6, 5, 6, 10, 6, 5, 5 tanlanma berilgan bo'lsin. Tanlanmaning statistik taqsimotini toping.

✓ x_i : 4 5 6 7 9 10 n_i : 6 9 8 3 1 3

12. Agar tanlanma to'plam bosh to'plamni deyarli barcha xususiyatlarini o'zida saqlasa, u holda bunday tanlanma deyiladi.



representativ (vakolatli) tanlanma



13. n hajmli tanlanma chastotalar taqsimoti berilgan ($k_1 + k_2 + \dots + k_n = n$):

$\frac{x_1 | x_2 | \dots | x_n}{k_1 | k_2 | \dots | k_n}$ Ikkinchi tartibli markaziy empirik momentni (\bar{m}_2) hisoblash formulasi qaysi

javobda to'g'ri berilgan.

✓
$$\bar{m}_2 = \frac{\sum_{i=1}^n k_i (x_i - \bar{x})^2}{n}$$

14. 5, 5, 4, 6, 5, 4, 6, 6, 9, 7, 10, 5, 6, 10, 7, 4, 4, 5, 4, 7, 5, 4, 6, 6, 5, 6, 10, 6, 5, 5 tanlanma berilgan bo'lsin. Tanlanmaning o'rta qiymatini toping.

✓ 5,9

15. Noma'lum θ parametrni berilgan γ ishonchlilik ehtimolligi bilan o'z ichiga olganoralik ishonchlilik intervali deyiladi.

✓ $(\theta^* - \delta; \theta^* + \delta)$

16. Belgining gruppaga tegishli qiymatlarining arifmetik o'rtacha qiymati:

✓ Gruppaviy o'rtacha qiymat

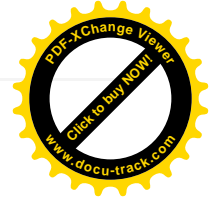
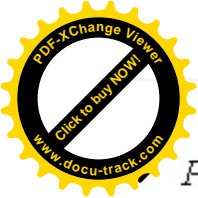
17. Tanlanma dispersiya D_T deb.....

✓
$$D_T = \frac{1}{n} \sum_{i=1}^n x_i^2 - \bar{x}^2 = \frac{1}{n} \sum_{i=1}^n x_i^2 n_i - \bar{x}^2$$

18. Empirik taqsimot funksiyaning xossalari qanday

✓ $F_n^*(x)$ – kamaymaydigan funksiya;

19. Ishonchlilik ehtimolligi formulasi...



$$P(|\theta^* - \theta| < \delta) = \gamma$$

20. Tanlanmaning empirik taqsimot funksiyasi qanday

✓ $F_n^*(x) = \frac{n_x}{n}$

Imtihon	4-KURS Amaliy matematika va informatika yo`nalishiga 8-semestr Extimollar nazariyasi va matematik statistika fanidan yakuniy nazorat
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Guruh	18.06.
Boshlandi	01.04.2022 14:23
Tugadi	01.04.2022 14:46
To'g'ri	18
Foiz	90.0