



Olimpiada topshiriqlari (tuman bosqichi)

9-sinf

24.10.2024

1-qism: Har bir topshiriq 0,9 balldan baholanadi

1. Uchlik sanoq sistemasidagi 120102 sonini o'nlik sanoq sistemasiga o'tkazing.

- A) 407 B) 416
C) 425 D) 434

2. Excel dasturida B6:E15 bloki nechta katakni o'z ichiga oladi?

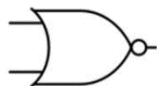
- A) 36 B) 30
C) 40 D) 27

3. Quyidagi o'lchov birliklardan eng kichigini toping.

- A) ZB B) EB
C) YB D) PB

4. Rasmda ko'rsatilgan sxema qanday mantiqiy amalni ifodalaydi?

- A) nor B) or
C) nand D) xor



5. Pythonda funksiya to'g'ri yaratilgan qatorni toping.

- A) def function_name: B) def function_name[]:
C) function_name def(): D) def function_name():

6. Pythonda list oxiriga yangi element qo'shish qanday amalga oshiriladi?

- A) lst.add(element) B) lst.insert(element)
C) lst.append(element) D) lst.put(element)

7. Quyidagi kod natijasini toping:

- ```
x = [1, 2, 3, 4]
print(x[-3:-1])
```
- A) [2, 1]                      B) [4]  
C) [3, 4]                      D) [2, 3]

8. Arastu (Aristotel) miloddan avvalgi nechanchi asrda yashab o'tgan?

- A) IV                      B) VI  
C) V                      D) VII

9. Ikki natural sonning eng katta umumiy bo'luvchisi (EKUB)ni topishning mashhur algoritmini belgilang.

- A) Eyler algoritmi                      B) Arastu algoritmi  
C) Yevklid algoritmi                      D) Xorazmiy algoritmi

10. Dizyunksiya amali bu:

- A) Mantiqiy qo'shish                      B) Mantiqiy ayirish  
C) Mantiqiy ko'paytirish                      D) Mantiqiy inkor

### 2-qism: Har bir topshiriq 1,7 balldan baholanadi

11. ABC sonining o'n beshlik sanoq sistemasidagi qiymati o'n to'rtlik sanoq sistemasidagi qiymatidan nechtaga farq qiladi? Javobni o'nlik sanoq sistemasida yozing.

- A) 0                      B) 199  
C) 301                      D) 2427

12.  $100_x + 100_{x+1} = 100_{x+2}$  bo'lsa,  $(x-1)^2$  ni hisoblang.

- A) 16                      B) 4  
C) 9                      D) 25

13. 90 MB ma'lumotni 128 Kb/s tezlikka ega tarmoq orqali yuborish uchun necha daqiqa vaqt kerak?

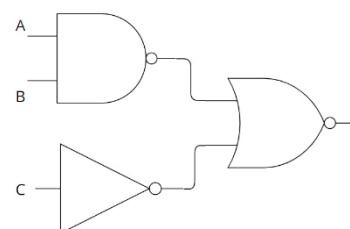
- A) 12                      B) 96  
C) 192                      D) 48

14. Excel dasturida C4 katakdagi  $=B2*4$  formulaning E3 katakka nuxsasini toping.

- A)  $=D1*4$                       B)  $=D1*3$   
C)  $=F1*4$                       D)  $=B2*3$

15. Rasmdagi sxemaga mos keluvchi mantiqiy ifodani toping:

- A)  $(A \vee B) \wedge \neg C$   
B)  $\neg(A \vee B) \wedge \neg C$   
C)  $(A \wedge B) \vee \neg C$   
D)  $\neg(\neg(A \wedge B) \vee \neg C)$



16. Quyidagi kod natijasini toping:

- ```
a={}
print(type(a))
```
- A) <class 'list'> B) <class 'set'>
C) <class 'dict'> D) <class 'map'>

17. Quyidagi kod natijasini toping:

- ```
print(bool(0))
```
- A) False                      B) None  
C) ValueError                      D) True

18. Quyidagi kod natijasini toping:

- ```
s = 0
for i in range(8,0,-2):
    s += (i - 3) ** 2
print(s)
```
- A) 45 B) 30
C) 35 D) 36





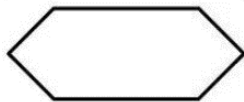
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19. Rasmda keltirilgan blok sxema qanday operatorni ifodalaydi?

- A) Shart operatorini
- B) Sikl operatorini
- C) Dasturni boshlash/tugatish operatorini
- D) Kiritish operatorini



20. Quyidagi kod natijasini toping:

```
x = [1, 2, 3, 4]
print(x[4:])
```

- A) [4]
- B) IndexError
- C) [None]
- D) []

3-qism: Har bir topshiriq 2,4 balldan baholanadi

21. A = "Bir sutkada 1440 daqiqa bor" B = "Tafakkurning 3 xil shakli bor", C = "pi < 3.14", bo'lsa, $(A \rightarrow B) \vee (C \rightarrow A) \leftrightarrow (A \wedge C)$ ning natijasini toping.

22. O'n oltilik sanoq sistemasidagi 16FAB90081 sonini o'rtlik sanoq sistemasiga o'tkazing.

23. Quyidagi python dasturi natijasini toping:
`print(pow(2, 5, 20))`

24. Quyida keltirilgan jadval uchun yozilgan `=СЧЁТЕСЛИ(A1:C3; ">1,5")` formula natijasini toping. Inglizcha `COUNTIF(A1:C3; ">1,5")`.

	A	B	C
1	-2	2,5	5,2
2	-1,7	1,5	-1,3
3	3	3,3	8

25. Yettilik sanoq sistemasidagi 112 sonini, o'nlik sanoq sistemasidagi 5 soniga bo'ling. Natijani o'n beshlik sanoq sistemasida keltiring.

26. Excel kitobida B4=19 bo'lsa, hamda `=ЕСЛИ(СТЕПЕНЬ(B4;2) - СТЕПЕНЬ(15;2) > 135; C4 - ДИСТР("Dota"); 40 - C4)` ifodaing qiymati 21 ga teng bo'lsa, C4 katakning qiymatini toping. Inglizcha `IF(POWER(B4;2) - POWER(15;2) > 135; C4 - LEN("Dota"); 40 - C4)`

27. Quyidagi dasturga qanday minimal natural son kiritilganda, dastur natijasi 64 sonidan qat'iy katta bo'ladi.

```
def s(n):
    ans = 0
    for i in range(1 << n):
        ans += i & 1
    return ans
```

```
print(s(int(input())))
```

28. Quyidagi python dasturi natijasini toping:

```
x = [1, 2, 3]
y = x
y.append(4)
print(x)
```

29. Uzunligi 40 ta belgidan iborat ma'lumot 75 belgili alifbo yordamida yozilgan bo'lsa uning eng kichik hajmi necha bit bo'ladi?

30. Quyidagi kod natijasini toping:

```
def f(x):
    if x<3: return x
    return 3*f(x-1)-2*f(x-2)+f(x-3)

print(f(7))
```

