

Takrorlanuvchi algoritmlar

Reja:

- Takrorlanuvchi jarayonlar haqida
- Takrorlanuvchi algoritm haqida
- Amaliy mashqlar

Takrorlanuvchi jarayonlar







`eat();`



`sleep();`



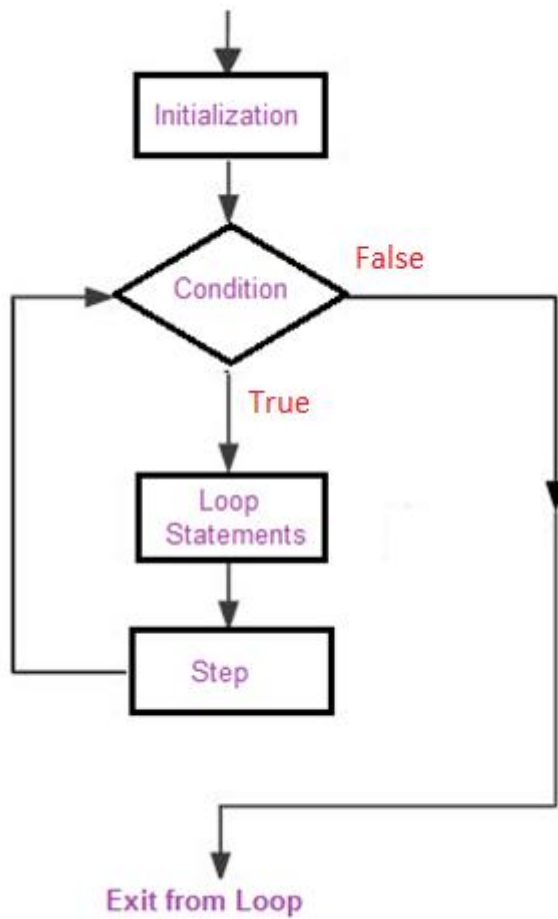
`code();`



`repeat();`

Takrorlanuvchi algoritm

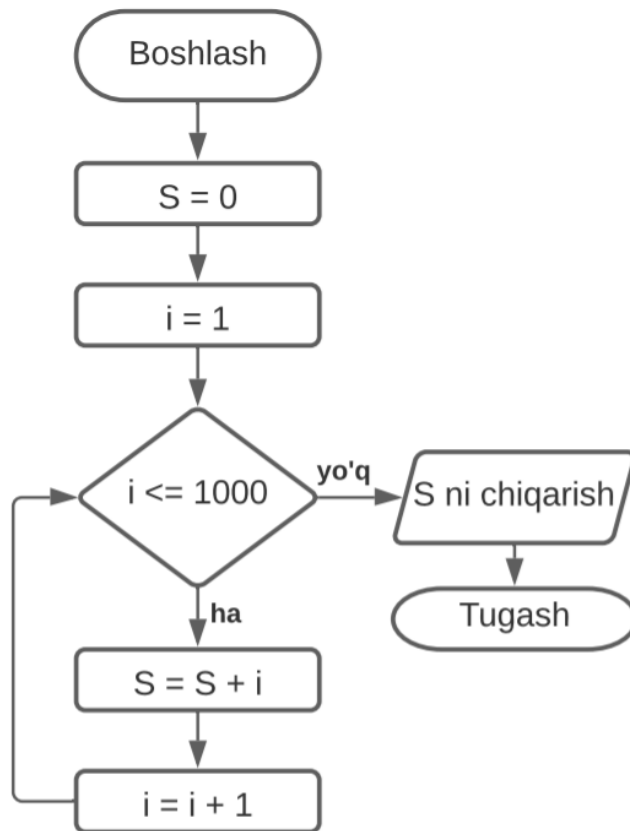
Biror masalani yechish uchun bajarilishi zarur bo'lgan amallar ketma-ketligining ma'lum bir qismi biror parametrga bog'liq holda bir necha marta takror bajarilsa, bunday algoritm **takrorlanuvchi algoritm** deyiladi.



Misol

1 dan 1000 gacha bo'lgan sonlar yig'indisini,
ya'ni $S = 1 + 2 + 3 + \dots + 1000$ ni hisoblash
algoritmini tuzing.

- 1) Boshlansin;
- 2) $S = 0$ deb olinsin (ya'ni $S = 0$);
- 3) i ning qiymati 1 deb olinsin (ya'ni $i = 1$);
- 4) agar $i \leq 1000$ bo'lsa 5-bandga o'tilsin, aks holda 7-bandga o'tilsin;
- 5) S ga i qo'shilib, S deb olinsin (ya'ni $S = S + i$);
- 6) i ga 1 qo'shilib, i deb olinsin (ya'ni $i = i + 1$); 4-bandga o'tilsin;
- 7) javob deb S olinsin;
- 8) tugallansin.



1- qadam: $I = 1$ bo'lsin:

$$S = S + 1 = 0 + 1 = 1$$

2- qadam: $I = I + 1 = 1 + 1 = 2$ bo'ladi:

$$S = S + I = 1 + 2 = 3$$

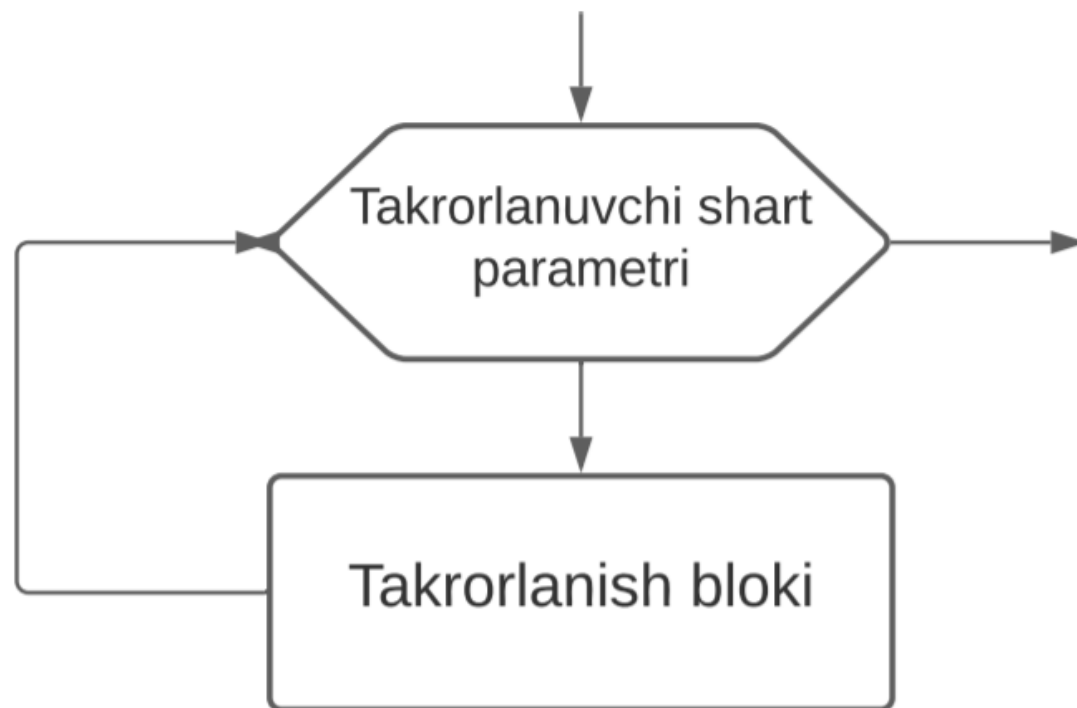
3- qadam: $I = I + 1 = 2 + 1 = 3$ bo'ladi:

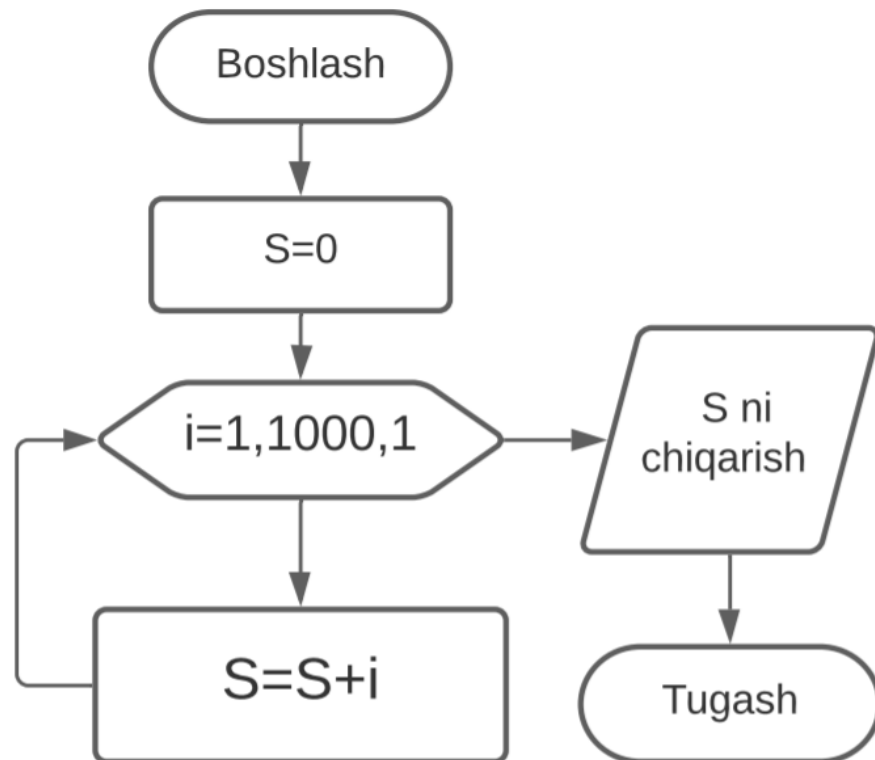
$$S = S + I = 3 + 3 = 6$$

4- qadam: $I = I + 1 = 3 + 1 = 4$ bo'ladi:

$$S = S + I = 6 + 4 = 10$$

...





Amaliy mashqlar

1 dan 10 gacha bo'lgan sonlarni ekranga
chiqaring.

Foydalanuvchi tomonidan kiritilgan songa mos
karra jadvalini ekranga chiqaring.

1 dan 20 gacha bo'lgan juft sonlarni ekranga
chiqaring.

a va b butun sonlari berilgan ($a < b$). Ular orasidagi butun sonlar yig'indisini toping.

N natural soni berilgan. Shu sonning natural bo'luvchilarini aniqlang.

Masalan, 30 ning bo'luvchilari: 1, 2, 3, 5, 6, 10, 15, 30

N natural soni berilgan. Uning mukammal yoki mukammal emasligini aniqlang.

Mukammal sonlar - o'zidan farqli bo'luvchilarning yig'indisiga teng natural sonlar.

Masalan, $6=1+2+3$, $28=1+2+4+7+14$.

N natural soni berilgan. Uning raqamlarining yig'indisini hisoblang.

Foydalanuvchi tomonidan sonlar kiritilaveradi. Bu jarayon \emptyset kiritilguncha davom etadi. Shu sonlarning eng kattasini toping.

**E`tiboringiz uchun
rahmat!**