A food container having a base (12) with a support surface (40) that supports a cardboard plate with a tall cake thereon, and a tall lid (14) that closes and opens over the base. The base has a rear end (22) with a vertical slot (50) and the lid has a rear end with a pivot connector that can be inserted down into the slot when the lid is in the pivoted-up position but that resists removal in the pivoted-down position. The base rear end that forms the slot lies on a raised platform (104) of the base that raises the slot above the level of the base front end (20), by at least 1/3rd the lid height, to cause the lid to move almost vertically as it clears the top front of the cake. The base support surface faces at a forward-upward incline angle to better display the cake through the transparent lid.
TILTED CAKE CONTAINER SYSTEM

BACKGROUND OF THE INVENTION

[0001] Food such as a tall cake, is often packaged in a container formed of deformed plastic sheeting that forms a base and a transparent lid. The cake generally lies on a cardboard cake board that is, in turn, supported on a support surface of the base. In prior containers, the consumer removed the lid by carefully moving the lid upward, with care taken to not turn the lid or shift it horizontally. Any such unwanted movement might cause the lid to smear the delicately applied cake frosting. After the lid was removed, it was set down on another surface so a person would be free to cut the cake. A low cost container that pivotally supports the lid on the base until the lid had been pivoted up, and then allowed the lid to be removed, would be of value. The lid should be supported so it does not contact the tall cake during upward pivoting of the lid.

[0002] When a cake is displayed in a store, it would be desirable if the cake were held so its top, which might hold the most attractive frosting design, could be more easily seen by a customer. Such cake holding to allow viewing the cake top, would be desirable even when containers holding cakes were stacked.

SUMMARY OF THE INVENTION

[0003] In accordance with one embodiment of the invention, a food container is provided that facilitates opening a tall lid without brushing it against frosting on a tall cake that is supported on a base, and that better displays the top of the cake in a store. The base has a rear end with a laterally- extending slot, and the lid has a lid pivot connector that pivots in the slot. When the lid is first opened from a fully closed position it is pivotally supported on the base so its position can be closely controlled and it will not brush against the cake frosting. However, when the lid has been pivoted up by an angle that is at least 15°, it can be removed from the base by simply lifting up the lid. This is accomplished by forming the rear wall of the base slot with a base forward projection and forming the lid pivot connector with a latch that lies under the forward projection only when the lid is closed or at a small pivot angle from the closed position.

[0004] The rear of the base is raised so the lid pivot axis lies at a level that is considerably above the level of the front of the lid and base. As a result, as the lid is pivoted up from a fully closed position, the lower front edge of the lid first moves forward, away from the cake and remains spaced from the cake until the lower front edge of the lid clears the front-top of the cake.

[0005] The base support surface is angled from the horizontal so any cake supported on it faces at a forward-upward incline. This enables customers to better see the top of the cake. The base support surface is angled from the base bottom that rests on a horizontal surface. When containers are stacked, short stacking projections that project down from the tilted base support surface of an upper container, lie on the tilted top of the lid of a lower container. This maintains a constant tilt of cakes in all stacked containers.

[0006] The rim of the base lies below the base support surface level along a majority of the opposite sides and front of the container to facilitate picking up a cake slice. The rear of the base has pockets on its rear surface, for holding a spatula for cutting and serving the cake, and for holding cake decorations such as candles and frosting.

[0007] The novel features of the invention are set forth with particularity in the appended claims. The invention will be best understood from the following description when read in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] FIG. 1 is an exploded top and front isometric view of a container of the invention, showing the base and lid thereof.
[0009] FIG. 2 is an assembled view of the container of FIG. 1 is a closed position.
[0010] FIG. 3 is a plan view of the closed container of FIG. 2.
[0011] FIG. 4 is a sectional side view of the container of FIG. 2 in a closed position, taken on line 4-4.
[0012] FIG. 4A is a sectional side view of region 4A-4A of FIG. 4.
[0013] FIG. 4B is a sectional side view of region 4B-4B of FIG. 4, and showing in phantom lines, the pivot connector in a partially pivoted-open position at which the lid can be removed.
[0014] FIG. 5 is a rear and side isometric view of the closed container of FIG. 2.
[0015] FIG. 6 is a side elevation view of the container of FIG. 4 after the lid has been pivoted up by about 60° from its closed position.
[0016] FIG. 7 is a front and side isometric view of a pair of stacked containers, each of the type shown in FIG. 2.
[0017] FIG. 8 is a sectional side view of the stacked containers of FIG. 7.
[0018] FIG. 9 is a top and side isometric view of the base and lid, showing a locator rib that locates the cake board.
[0019] FIG. 10 is a sectional view showing the locator rib of FIG. 9.
[0020] FIG. 11 is an isometric view of the base of the container.
[0021] FIG. 12 is a rear isometric view of a container of another embodiment of the invention, which includes additional pockets with supplies in the rear.
[0022] FIG. 13 is a partial sectional side view showing two stacked containers of another embodiment of the invention.
[0023] FIG. 14 is a plan view of the base of the container of FIG. 11.
[0024] FIG. 15 is a front and side isometric view of a partially opened container of another embodiment of the invention, with a base support surface which is not tilted and which has fewer depressions.
[0025] FIG. 16 is a side elevation view of the container of FIG. 15 in a fully closed position.
[0026] FIG. 17 is an exploded isometric view of a container of another embodiment of the invention with a support surface which is not tilted.
[0027] FIG. 18 is a sectional side view of a pair of stacked containers of the type illustrated in FIG. 17.
[0028] FIG. 19 is a side elevation view of the container of FIG. 17, with the lid pivoted up by about 30° from a closed position.

DESCRIPTION OF THE PREFERRED EMBODIMENT

[0029] FIG. 1 illustrates a container 10 that includes a base 12 and a lid 14. The base has front and rear ends 20, 22 spaced
in front and rear directions F, R, and has opposite sides 24, 26 spaced in lateral L directions. The lid has opposite front and rear ends 30, 32 and laterally opposite sides 34, 36. The particular container 10 is designed to hold a tall cake, such as a rectangular cake having a lateral width of 12 inches, a front-to-rear length of 8 inches, and a height in up and down U, D directions of 3 inches. Often, the cake is decorated with frosting, and the lid is of transparent plastic sheeting that has been deformed (by heat, vacuum, etc.) to its final shape so the decoration can be seen. The base may be transparent or opaque and of any color; the particular base 12 being opaque. The cake lies on a cake board that has a slightly larger width and length than the cake.

[0030] The base has a base support surface 40 that is interrupted by numerous depressions 42 that add strength to the base. The base has a groove 44 that extends around the entire periphery of the base, and the lid has a tab 46 at its periphery that fits into the groove and forms a seal for freshness.

[0031] In common prior art containers that hold a cake, the lid is removed by initially pulling it directly up until a lid tab suddenly releases from a base groove, and by further lifting the lid until it is clear of the cake. Often, there is only a small clearance around the cake. When the lid is first pulled up and it suddenly releases from the base, the lid may move horizontally, press against the cake frosting and damage the frosting. The person holding the tall lid then tries to move the lid upward without turning it or moving it horizontally so it does not further damage the frosting, all of which is difficult to do. When the lid lies above the cake, the person lays the lid on another surface and proceeds to cut the cake.

[0032] Applicant avoids unwanted lid movement during lid lifting by pivotally connecting the rear end of the lid to the base and preventing lid removal, only while the lid is moved upward only slightly above much of the cake (e.g. when the lid has pivoted less than 15° or 30° from the closed position), and by then (after the lid has pivoted by at least 15° or to at least 30°) completely releasing the lid from the base. FIG. 4 shows that when the lid is fully closed, a lid pivot connector 52 at the rear end 32 of the lid, lies in a base slot 50 in the rear 22 of the base. FIG. 4B shows that the base slot 50 includes front and rear largely vertical slot walls 54, 56 connected by a bottom slot wall 60. The base rear slot wall 56 has a forward projection 62. The lid lies in the closed position shown in solid lines in FIG. 4B, and can pivot in the clockwise direction 70 when the lid is opening.

[0033] When the lid 14 has pivoted clockwise by an angle B of approximately 45° (15° to 90°) it reaches the position 14A shown in phantom lines in FIG. 4B. At that position 14A, the connector rear wall 68 has moved forward a distance C to position 68A wherein its rear end at 72A can be lifted up past the forward projection 62 in the base rear wall. The forward-upward inclined surface 74 of the projection 62 of the rear vertical slot wall assures that the lid will slide forward so its connector rear wall at 68A can move out of the slot. Applicant notes that the rear wall at 68A has a bent surface 69A that facilitates deflection of the surface at 74. There may be slight deflection of the projection 62 and connector rear end 72A during such upward movement. When the lid has pivoted up by about 60° to 14A, as shown in FIG. 6, it is easy to lift it clear of the cake and avoid damage to the frosting. Such lifting up of the lid is preferably done after the lower front of the lid has cleared the top-front corner 92 of the cake, which occurs at a pivot angle E of about 15°.

[0034] FIG. 6 shows that the lid 14 pivots on the base 12 about a pivot axis 80 (which shifts only slightly), with the pivot axis raised above the lowermost point 82 of the closed lid by a distance 84 that is more than one-quarter the height 86 of the lid, preferably at least one-third the height of the lid, and preferably at least 13 mm for a lid height of at least 38 mm. As a result, the bottom of the front end 32 of the lid (where it could scrape across the cake at 92) moves along a path 90 that moves it away from interference with the top-front 92 of the cake 94. If the lid pivoted about an axis 100 lying at the height of the bottom of the lid, then the lid front end would move along a path 102 that would take it very close to the cake top-front 92 and any frosting that might project further than usual therefrom. The base forms transition portions 103 that extend at an angle from the horizontal of at least 30° and that forms the front end of an upward projection or platform 104. The lid is pivotally connected to the base at the top of the platform. Each transition portion has a slot portion that merges with the slot in the top of the projection.

[0035] FIG. 4 shows that the base support surface 40 which supports a cake board 110 that supports the cake 94, extends at a forward-downward incline angle 112 from a horizontal plane 113. As a result, the cake upper surface 96 faces at a forward-upward angle 114 of a plurality of degrees (and preferably no more than 20°) when the base 12 lies on a horizontal surface 116. The particular angle 114 is 4 degrees. The orientation of the base on the horizontal surface is determined by bottom support locations 120, 122, 124 on the front, rear and sides of the base. Most store shelves extend horizontally, and when a prior cake-holding base was placed on the shelf the top of the cake faced directly upward. This could make it difficult for a shopper to see the top of the cake, which is usually the most highly decorated part. By making the container so it holds a normal cake (of constant height) with its cake top 96 facing at a forward-upward incline, applicant facilitates observance of the cake top by a shopper. The base support surface 40 (FIG. 11) has front and rear ends 40F, 40R, with the rear end 40R at a higher elevation. The lid 14 a distance (II, FIG. 4) of at least 2.5 inches above the base support surface, with the lid 14 actually lying 3½ inches above the support surface.

[0036] FIG. 8 shows a pair of identical containers 10, 10C of the invention stacked on one another. The lid of each container has a large area depression 130 and has a raised top surface 132 extending around the depression. The support surface wall 134 of each base, which forms the support surface 40, lies above the shelf supported points 120, 122, 124 and connects thereto through downward projections 136, 138. The containers are stacked so the base support surface wall 134 rests on the lid raised top surface 132, or through downward base projections 136 the support surface wall rests on the surface 138 in the large depression 130 of the next lower container. This keeps the surface 138 of the lid large area depressions parallel to each other and facing at a slight forward-upward angle.

[0037] FIG. 11 shows that when the lid has been removed from the base 12, base rims 24R, 26R at the opposite sides 24, 26 of the base lie below the level of the support surface 40 along a majority of the length of each side. Also, a front rim 20R at the front end 20 of the base lies below the level of the support surface 40 thereat along a majority of the lateral width of the front of the support surface. This is accomplished by locating the opposite sides 140, 142 of a slot 144 that extends along the base sides and front, at a lower level than adjacent
portions of the support surface, resulting in raised support surface sides 145. The advantage of this arrangement is that it makes it easier for a person to cut and serve slices of a cake. Slices of a cake are usually served by inserting a spatula or other tool with a thin flat sheet, under the cake slice, lifting the slice, and transferring it onto a plate. If the side or front base edges lie above the level of the base support surface, or of the bottom of the cake, then the spatula edge must be inserted at a downward angle onto the bottom of the cake, and the slice can be broken up in the process. The large side and front area that is open to spatula insertion facilitates serving.

[0038] FIG. 4A shows that at the front of the container, the base slot 144 includes slots walls similar to those at the rear of the base (shown in FIG. 4B), and the lid includes connector walls 146 similar to those in the rear of the lid. However, the base slot walls 144 and the lid connector walls 146 lie in orientations reversed from those at the rear. The lid still opens by pivoting in the clockwise direction 70. As a result, the base slot walls 148 and lid connector walls serve to resist initial upward lid movement during opening of the lid from its fully closed position, until front connector wall 150 is pulled up so forcefully that it rides up over the forward projection 152 on the front base slot wall 154. Applicant provides a tab 160 (FIG. 1) at the front of the lid that can be pulled up forcefully to snap open the lid. FIG. 9 shows that the forward projection 152 is interrupted by an interrupting slot portions 153.

[0039] A cake is usually placed on a cake board of greater width and length than the cake, and the cake board is placed in a container by lowering it onto the base support surface. It is desirable to fix the front-to-rear and lateral position of the cake board on the base. FIG. 11 shows that the base has locators 190 at the laterally opposite sides of its front end, that project above adjacent portions of the base sides and front end. FIG. 9 shows that each locator 190 is rounded and the cake board 110 is correspondingly rounded. The locators have small lateral and front-rear lengths so they do not block most of the opposite sides and front end of the base. FIG. 10 is a sectional view showing a locator 190.

[0040] FIG. 5 shows that the rear primarily vertical wall 162 of the base has label-holding area 164, 166 on which labels can be pasted. The rear wall also has a rearward-projecting pocket 170 that is laterally long and projects rearward much less, and that holds a plastic (low cost) cutting and serving knife-spatula 172. Sometimes a host cannot readily find a knife and spatula with which to cut and serve a cake, and the storage of the tool 172 avoids this.

[0041] FIG. 12 shows a container 180 of another embodiment of the invention, wherein the rear 182 of the container contains one or more pockets 184 that hold cake decorating supplies 186 that include decorative candles 190 and tubes 192 of colored icing and other decorative materials (e.g. sprinkles). The decorating supplies enable a person to decorate a cake him/her self if the person forgot to buy such cake decorations.

[0042] FIG. 13 shows a base 200 and a portion of a lid 202 of two identical containers that are stacked one on another. The top of the lid has an upward lid projection 204 that extends around the entire lid top and that includes front and rear projection parts 206, 208. The base has a downward base projection 210 with front and rear base projection parts that straddle the lid projection 204 to fix the horizontal position of the base to support it on the lid.

[0043] FIG. 15 shows a container 220 of another embodiment of the invention, wherein the base 221 has a base support surface 222 with only two downward projections 224 and 226 so it is generally continuous. The support surface 222 is not tilted from the vertical, but faces directly upward when the base rests on a horizontal surface. The laterally opposite sides of the base that form slot portions 234, 236, extend at a constant upward-rearward (U, R) incline so the rear slot portion 240 is raised above the support surface. This prevents the easy sliding of a spatula laterally under a cake on the support surface. However, front slot walls 242, 244 at the base front 246 lie no higher than the level of the support surface 222, so a spatula can be slid rearwardly R over the front 246 of the base and under a cake slice.

[0044] Applicant notes that the lid 250 has a tapered height, with the front end of greater height than the rear end. The taper can be sufficient that the top surface of the lid is horizontal, or the taper can be less than required to hold the top surface horizontal. FIG. 16 shows the closed container 220 with the lid top surface 252 (which covers a majority of the lid) inclined from the horizontal so the lid top surface faces at a forward-upward incline. Any similar container stacked above the container 222 will hold its cake so it faces at a greater upward-forward incline. Not too many of these containers should be stacked on one another or the incline will be too great for stability.

[0045] FIG. 17 illustrates a container 260 which is similar to the container of FIG. 1, except that the support surface 262 does not have numerous downward projections except in a peripheral portion 264 of the support surface. Also, the support surface is horizontal rather than tilted by a plurality of degrees. The container has laterally opposite sides 270, 272 and a front 274 that lie no higher than the support surface 262 so a spatula can be easily inserted laterally under a cake slice. The lid 276 has a constant height along most of its front-to-rear length. FIG. 18 shows two identical containers 260 stacked on one another. The bases are still constructed to be supported with their bottom rim on a horizontal shelf surface 116, but the bases hold the support surface 262 and lid top surface 276 horizontal. FIG. 19 shows the lid pivoted up by about 30° from a closed position at which the lid can be removed.

[0046] Thus, the invention provides a food container, especially for a cake, which can facilitate viewing the top surface of a cake even when stacking such containers, which facilitates the opening of the lid without having the lid inadvertently brush against the cake frosting, which facilitates the serving of slices of the cake, and which provides implements for cutting, serving and decorating the cake. The container has a base support surface that can be oriented to face to a forward-upward incline, and a stack of such containers lie on selected surfaces of one another to keep the same incline for each container of a stack. The rear of the lid is pivotally mounted on the rear of the base by the use of a lid connector that fits into a base slot at the base rear. The walls of the base rear slot include a projection on the rear base slot wall that allows lid pivoting up but resists lift-up of the lid until the lid has pivoted up by at least about 15° from the closed position. The base has a raised platform at its rear that locates the lid pivot axis considerably above the level of the lid front, to assure that the front-bottom of the lid does not brush against the top-front of a cake. A combined cake knife and spatula are mounted in a laterally long pocket on the rear of the lid against the back of the raised platform, and a laterally short pocket (s) can be provided to hold cake decorations at the rear of the base. Although the container is especially useful for holding
a tall cake, it can be used to hold other food. While the drawings show a rectangular container for holding a rectangular (as seen in a plan view) cake, the invention can be applied to containers of other shapes such as (as seen in a plan view) round, oval, or heart-shaped.

[0047] Although particular embodiments of the invention have been described and illustrated herein, it is recognized that modifications and variations may readily occur to those skilled in the art, and consequently, it is intended that the claims be interpreted to cover such modifications and equivalents.

1. A food container of deformed plastic sheeting that includes a base and lid that each has a front end, a rear end, and laterally opposite sides, including:
   - means for pivotally supporting said lid rear end on said base rear end and preventing lift-up of the lid rear end as the lid is initially pivoted open from a closed position toward an open position by the lid front end moving upward and rearward, and for releasing said lid to be lifted off the base when the lid has been pivot up by an angle which is at least 150 from said closed position.

2. The container described in claim 1 wherein:
   - said base rear end has a slot with front and rear primarily vertical base slot walls, with said rear slot wall having a rear slot wall forward projection, and said lid rear end has a lid pivot connector with a front wall lining behind and adjacent to said base front slot wall, and with a lid connection lying under said rear slot wall forward projection when the lid is closed but not lying under the projection when the lid has been pivot up by 90° from said closed position.

3. The food container described in claim 1 wherein said lid is transparent, said base has a base bottom with bottom support locations constructed to rest on a shelf flat surface, and said base has a primarily upward-facing base support surface (40) wherein:
   - said base is formed of a single sheet of said plastic sheeting, which forms opposite support surface sides (145) that are of progressively greater height at progressively more rearward locations therealong, and that hold said base support surface (40) so it faces at an upward-forward incline of a plurality of degrees from the vertical when said base bottom support locations lie on a shelf flat surface that is horizontal.

4. The food container described in claim 1 wherein said base has a primarily upward-facing base support surface, and when said base lies on a flat horizontal surface a part of said lid has a top that lies at a lid top height that is a plurality of inches above the level of said base support surface, and wherein:
   - said lid rear end is pivotally connected to said base rear end about a pivot axis that lies above a front end of said support surface which is at least one-third said lid top height.

5. The food container described in claim 1 wherein said base has a base support surface that can support a flat plate that has a plate length greater than half the length of said base between said base front and rear ends and a plate width that is more than half the width of the plate between said base opposite sides and wherein:
   - said base has a rim that extends around said base support surface and that lies below the level of said base support surface along a majority of said base front and said base opposite sides.

6. A food container of deformed plastic sheeting which has a base with a front, rear, laterally opposite sides, a primarily upwardly facing base support surface, and front and rear base support surface ends, said base being formed of a single piece of plastic sheeting and having a base bottom for resting on a flat horizontal surface with said base sides supporting opposite sides of said base support surface, said container having a transparent lid that covers said base, wherein:
   - said base sides each has a progressively greater height at progressively more rearward locations along the side, and holds said base support surface (40) at a rearward-upward incline of a plurality of degrees relative to said flat surface on which said bottom rests, to thereby better display the contents of the container.

7. The container described in claim 6, wherein:
   - said lid has a transparent top surface which lies directly over a majority of said base support surface and which lies in a plane that is parallel to said base support surface.

8. The container described in claim 7, wherein:
   - said lid has a lid front, lid rear, and laterally opposite lid sides, that are all horizontally shorter than said front, rear and sides of said base, so when said container and another identical container are stacked on one another the lid of the lower container lies within the boundaries of the base of the next higher container; each has downward-projecting stacking projections with lower surfaces that lie on an imaginary plane that is parallel to the base support surface of the same container and that rest on the top surface of the next lower container, but with said imaginary plane angle to said base bottom that can rest on a flat horizontal surface, whereby all containers in a stack have parallel base support surfaces.

9. The container described in claim 6, wherein:
   - said base rear has a raised rear platform with an upwardly-opening rear slot, and said lid has a rear end bottom forming a pivot connector that lies in said rear slot and that is pivotally connected to an upper end of said platform;
   - said base front and a majority of said base sides, have a height less than half the height of said projection, said slot of said base sides merging with said slot of said base front;
   - said base sides have rear transition portions that form laterally opposite sides of front ends of said platform and that each extends at an angle of at least 30° to said horizontal support surface, each transition portion having a slot that merges with one of said slots of said base sides and with said rear slot;
   - said lid having a lower end that extends along all of said slots.

10. The container described in claim 6, wherein:
    - said base has a rim that extends around said base support surface, said rim having a rim top which is below said base support surface along a majority of each side of said base, whereby to facilitate access to said base support surface for the removal of a piece of food thereof.

11. A food container of deformed plastic sheeting which has a base with a front, rear, laterally opposite sides, a primarily upwardly facing base support surface, and a horizontal base bottom for resting on a flat horizontal surface, said container having a lid that is connected to said base to pivot between open and closed positions thereon, wherein:
said base rear has a laterally-extending base rear slot with front and rear slot walls and a primarily horizontal bottom slot wall;
said lid has a rear end with a lower end that has a pivot connector that lies in said base slot, said pivot connector having front, bottom, and rear connector parts;
when said lid is in said closed position, said connector front part lies facewise adjacent to said front slot wall and said connector bottom part lies facewise adjacent to said bottom slot wall, and an outer part that connects to said middle part;
said rear connector part extends at a rearward-upward incline to the horizontal from a rear of said connector bottom part and has a free rear end;
said rear slot wall has a forward projection formed therein that has an inclined lower projection surface lying in said slot that extends at a forward-upward incline, and said free end of said rear connector part lies below a lower end of said inclined lower projection surface;
said free end lying under said lower projection resists said outer part free end and said pivot connection portion from lifting so said lower projection resists lift-up of said connector part out of said slot in said lid closed position, but said free end does not lie vertically under with said forward projection when the lid has been pivoted 90° from said closed position so the lid pivot connector portion then can be lifted out of said base rear slot.

12. A food container of deformed plastic sheeting which has a base with a front, rear, laterally opposite sides, a primarily upwardly facing support surface having front and rear support surface ends, and a bottom forming a horizontal support surface for resting on a flat horizontal surface, said container having a lid that has at least a tall lid portion that lies at least 1.5 inches (38 mm) above said base support surface and that covers said base, wherein:
said rear of said base has a raised rear projection, and said lid has a rear end that is pivotally connected to said projection about a pivot axis that lies at least 13 mm above the level of said front end of said support surface, whereby the lid front end initially moves forward when the lid is raised from a closed position.

13. A food container of formed plastic sheeting which has a base with a front, rear, laterally opposite sides, a primarily upwardly facing base support surface, and front and rear base support surface ends, said base having a base bottom for resting on a flat horizontal surface, said container having a lid that covers said base, wherein:
said base has a rim with a rim slot that extends around said base support surface and said lid has connector walls that lie in said slot when the lid is closed, said rim having a front end with a rim top which lies at a level no higher than said base support surface, to facilitate access to said base support surface through the rim front end.

14. The food container described in claim 13 wherein:
said rim of said base has opposite sides that each extends at an upward-rearward incline.

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