WHAT IS CLAIMED IS:

1. A vending method for a vending machine, ~~wherein~~ the vending machine ~~comprises:~~ including a machine body, a door body, at least one shelf installed inside the machine body, an infrared sensing device disposed in the machine body, an imaging device, and a weighing device, and

the vending method ~~comprises~~comprising:

acquiring a weight of a product on the shelf before and after a vending operation; and

issuing an alarm prompt ~~when~~in response that it is ~~detected and confirmed~~determined that a weight change is less than a first weight change threshold, wherein the weight change is a difference between the weight of the product on the shelf before vending operation and the weight of the product on the shelf after vending operation, and the first weight change threshold ~~is~~being less than or equal to zero~~.~~;

~~2. The vending method according to claim 1, wherein the vending machine further comprises an imaging device, and the vending method further comprises:~~

capturing images of the product on the shelf before and after the vending~~; and~~ operation;

issuing an alarm prompt ~~when~~ in response to that it is ~~detected and confirmed~~determined according to the images before and after the vending operation that the product on the shelf increases~~.~~;

controlling the weighing device and the imaging device to start operation in response to that the infrared sensing device detects that a hand leaves; and

controlling the weighing device and the imaging device to start operation in response to a door opening signal or a door closing signal is detected.

~~3~~2. The vending method according to claim ~~2~~1, comprising:

~~confirming~~determining that the weight change is greater than a second weight change threshold, and obtaining first vending information according to the weight change, wherein the second weight change threshold is greater than or equal to zero;

~~detecting and confirming according to the~~ determining, based on the images before and after the vending operation, that the product on the shelf decreases~~, and~~ ;

obtaining second vending information ~~according to~~based on a change of the images; and

issuing an alarm prompt ~~when~~in response to that it is ~~confirmed~~determined that the first vending information is inconsistent with the second vending information.

~~4~~3. The vending method according to claim ~~3~~2, comprising:

~~confirming~~determining that the first vending information is consistent with the second vending information, and determining the first vending information or the second vending information as final vending information.

~~5~~4. The vending method according to claim ~~3~~2, wherein the obtaining the first vending information ~~according to~~based on the weight change comprises:

determining a vending category ~~according to~~based on a position of the product; and

obtaining a vended number ~~according to~~based on the weight change and a ~~preset~~ unit ~~product~~ weight of the product of the vending category.

~~6~~5. The vending method according to claim ~~1~~3, wherein each shelf is provided with at least one tray, ~~and~~ each tray ~~has~~having a set identifier~~,~~ and configured to place a product of a predetermined category, and each shelf is provided with at least one weighing device at a bottom ~~thereof, and is configured to place a product of a predetermined category,~~of the shelf; and

wherein obtaining the first vending information ~~according to~~based on the weight

change comprises:

obtaining a vending category ~~according to~~based on the set identifier of the tray; and

obtaining a vended number ~~according to~~based on the weight change of the product on the tray before and after the vending operation and a preset unit weight of the product ~~weight~~ of the vending category corresponding to the tray.

~~7~~6. A non-transitory computer readable storage medium, having ~~a computer program~~executable instructions stored therein that, when executed~~, causes~~ by a processor, configure the ~~vending method for the vending machine according~~processor to ~~any one of claims 1-6 to be implemented.~~implement acts comprising:

acquiring a weight of a product on a shelf of a vending device before and after a vending operation of the vending device;

determining a weight change between the weight before the vending operation and the weight after the vending operation; and

issuing an alarm prompt in response that it is determined that the weight change is less than a first weight change threshold, and the first weight change threshold being less than or equal to zero;

capturing images of the product on the shelf before and after the vending operation;

issuing an alarm prompt in response to that it is determined according to the images before and after the vending operation that the product on the shelf increases; and

controlling one or more of the act of the acquiring the weight or the capturing the images in response to detecting a gesture, a door opening signal, and a door closing signal.

~~8~~7. A vending machine, comprising:

a machine body, a door body, and at least one shelf installed inside the machine body;

a weighing device, disposed at a bottom of the shelf and configured to acquire weight of a product on the shelf before and after a vending operation;

a processing device, ~~connected~~coupled to the weighing device and configured to calculate a weigh change between the weight of the product on the shelf before the vending operation and the weight of the product on the shelf after the vending operation, and issue a prompt control signal ~~when~~in response to the weigh change is less than a first weight change threshold, wherein the first weight change threshold is less than or equal to zero; ~~and~~

a prompting device, ~~connected~~coupled to the processing device and configured to issue an alarm prompt ~~according to~~based on the prompt control signal~~.~~;

~~9. The vending machine according to claim 8, further comprising:~~

an imaging device, ~~connected~~coupled to the processing device and configured to capture images of the product on the shelf before and after the vending~~;~~ operation; and

an infrared sensing device, disposed in the machine body and coupled to the processing device,

wherein~~:~~:

the processing device is ~~further~~ configured to ~~detect and confirm according to~~determine based on the images before and after the vending operation that the product on the shelf increases, and to issue the prompt control signal~~.~~;

the processing device is configured to control the weighing device and the imaging device to start in response to that the infrared sensing device detects that a hand leaves; and

the processing device is configured to control the weighing device and the imaging device to start in response to a door opening signal or a door closing signal is detected.

~~10~~8. The vending machine according to claim ~~9~~7, wherein the processing device is further configured to obtain first vending information ~~according to~~based on the weight change ~~when~~in response to that the weight change is greater than a second weight change threshold, ~~detect and confirm according to~~ determine based on the images before and after the vending operation that the product on the shelf decreases, obtain second vending information ~~according~~

~~to~~based on a change of the images, and issue the prompt control signal ~~when~~in response to that the first vending information is inconsistent with the second vending information, wherein the second weight change threshold is greater than or equal to zero.

~~11~~9. The vending machine according to claim ~~10~~8, wherein the processing device is further configured to determine the first vending information or the second vending information as final vending information ~~when~~in response to the first vending information is consistent with the second vending information.

~~12. The vending machine according to claim 9, further comprising:~~

~~an infrared sensing device, disposed in the machine body and connected to the processing device,~~

~~wherein the processing device is configured to control the weighing device and the imaging device to start when the infrared sensing device detects that a hand leaves; or~~

~~the processing device is configured to control the weighing device and the imaging device to start when a door opening signal or a door closing signal is detected.~~

~~13~~10. The vending machine according to claim ~~8~~7, wherein each shelf is provided with at least one tray, each tray ~~has~~having a set identifier~~, is provided with at least one weighing device at a bottom thereof, and is~~ and configured to place a product of a predetermined category, and each shelf is provided with at least one weighing device at a bottom of the shelf, the weighing device ~~is~~ configured to acquire the weight of the product on the respective tray.

~~14~~11. The vending machine according to claim ~~10~~8, further comprising:

a user information reading device, ~~connected~~coupled to the processing device, and configured to read user information.

~~15~~12. The vending machine according to claim ~~10~~8 ~~or 14~~, further comprising:

a monitoring device, installed outside the machine body and configured to monitor a use environment of a user.

~~16~~13. The vending machine according to claim ~~15~~12, wherein the monitoring device comprises:

an imaging module, ~~connected~~coupled to the processing device and configured to acquire user and environment images ~~when~~in response to that a triggering signal is detected; and

a triggering module, connected to the imaging module and configured to issue the triggering signal ~~when~~in response to that a triggering instruction from ~~the~~a user is detected.

~~17~~14. A vending system, comprising:

a vending machine, comprising:

a machine body, a door body, and at least one shelf installed inside the machine body;

a weighing device, disposed at a bottom of the shelf and configured to acquire weight of a product on the shelf before and after a vending operation;

an imaging device, configured to capture images of the product on the shelf before and after the vending operation;

a communicating device, configured to upload the weight and the images of the product on the shelf before and after the vending operation;

a processing device, ~~connected~~coupled to the weighing device, the imaging device and the communicating device, respectively; ~~and~~

a prompting device, ~~connected~~coupled to the processing device and configured to issue an alarm prompt ~~according to~~based on a prompt control signal; and

an infrared sensing device, disposed in the machine body and coupled to the processing device, wherein the processing device is configured to control the weighing device and the imaging device to start in response to that the infrared sensing device detects that

a hand leaves, and is configured to control the weighing device and the imaging device to start in response to a door opening signal or a door closing signal is detected; and

a server, configured to obtain first vending information ~~according to~~based on a weight change of the product on the shelf before and after the vending operation, identify the images of the product on the shelf before and after the vending operation to obtain second vending information, determine final vending information ~~according to~~based on the first vending information and the second vending information, and issue the prompt control signal ~~when~~in response to it is ~~confirmed~~determined that the product on the shelf increases after vending.

~~18~~15. The vending system according to claim ~~17~~14, wherein the sever is configured to determine the first vending information or the second vending information as the final vending information in response to the first vending information is consistent with the second vending information.

~~19~~16. The vending system according to claim ~~17~~14, wherein each shelf is provided with at least one tray, each tray having a set identifier and configured to place a product of a predetermined category, and each shelf is provided with at least one weighing device at a bottom of the shelf, the weighing device configured to acquire the weight of the product on the respective tray.