



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/727,714	06/01/2015	Jamil KAWA	SYNP 1731-7	2815
36454	7590	07/02/2020	EXAMINER	
SYNOPSISYS, INC. C/O HAYNES BEFFEL & WOLFELD LLP			DOAN, NGHIA M	
P.O. BOX 366			ART UNIT	PAPER NUMBER
HALF MOON BAY, CA 94019			2851	
			NOTIFICATION DATE	DELIVERY MODE
			07/02/2020	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

doCKET@hmbay.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JAMIL KAWA, VICTOR MOROZ, and DEEPAK D.
SHERLEKAR

Appeal 2019-000245
Application 14/727,714
Technology Center 2800

Before MAHSHID D. SAADAT, CARL L. SILVERMAN, and
MICHAEL J. ENGLE, *Administrative Patent Judges*.

SAADAT, *Administrative Patent Judge*.

DECISION ON APPEAL¹

Appellant² seeks our review under 35 U.S.C. § 134(a) of the Examiner's final rejection of claims 1 and 4–11.³ We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ An oral hearing scheduled for this appeal on May 14, 2020, was waived.

² We use the word “Appellant” to refer to “Applicant” as defined in 37 C.F.R. § 1.42. Appellant states the real party in interest is Synopsys, Inc. Appeal Br. 3.

³ Claims 2 and 3 have been canceled.

STATEMENT OF THE CASE

Appellant's Specification is directed to electronic design automation tools for integrated circuit devices, such as FinFET devices, using standard cell libraries. *See* Spec. ¶¶ 2, 5.

Exemplary claim 1 under appeal reads as follows;

1. A system for circuit design and implementation using FinFET block based cells from a cell library, comprising:
an EDA tool configured to:

transform on a data processing system a logical circuit representation of a D-flip flop into a physical circuit representation by performing steps including placing FinFET block based cells from the cell library and routing electrical interconnects directly connected to the FinFET block based cells to implement the D-flip flop; and

use the D-flip flop in automated design of an integrated circuit,

wherein the FinFET block based cells include sets of semiconductor fins of FinFET transistors, and

wherein the sets of semiconductor fins of FinFET transistors include:

a first set of parallel fins sharing a first conductivity type;

a second set of parallel fins sharing a second conductivity type opposite to the first conductivity type;
and

an isolation structure between the first set of parallel fins and the second set of parallel fins, the isolation structure serving to prevent current leak.

Claims 1 and 4–11 stand rejected under 35 U.S.C. § 101, as being directed to a judicial exception, without significantly more. Non-final Act.
3–11.

ANALYSIS

“Whether a claim is drawn to patent-eligible subject matter is an issue of law that we review de novo.” *SiRF Tech., Inc. v. Int’l Trade Comm’n*, 601 F.3d 1319, 1331 (Fed. Cir. 2010). Arguments Appellant could have made, but chose not to make, are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(iv).

We review the appealed rejections for error based upon the issues Appellant identifies, and in light of the arguments and evidence produced thereon. *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential), *cited with approval in In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011) (“[I]t has long been the Board’s practice to require an applicant to identify the alleged error in the examiner’s rejections.”). After considering the argued claims in light of the case law presented in this Appeal and each of Appellant’s arguments, we are not persuaded of Examiner error in rejecting claims 1 and 4–11 under 35 U.S.C. § 101.

Rejection and Arguments

The Examiner determines the claimed system performs the process of transforming and analyzing data related to circuit design and is directed to “an abstract idea of a mental process, which can done by software (EDA tool) for performing data processing that is similar to data recognition and storage in Content Extraction, Synopsys” and is “run by software code (EDA tools)” and is further similar to mental process for logic circuit design in Synopsys. Non-final Act. 3–7 (citing Spec. ¶¶ 20–23, 27, 28, 34, 100, 109–112). With respect to the recited additional elements, the Examiner determines “claim 1 recited a generic computer and EDA tool/software to perform manipulating (i.e., Engineering Change Order) data information to

execute the mental process,” which “are readily identifiable as basis computer components that individually perform purely generic function of data manipulating of circuit design data to achieve the result that have been well-known in the prior art.” Ans. 7–8. The Examiner further contrasts the appealed claims with those in *Amdocs*,⁴ *Enfish*,⁵ *Synopsys*,⁶ *BASCOM*,⁷ *DDR*,⁸ and *McRO*⁹ and concludes the recited features “do not add significantly more than the abstract idea.” Non-final Act. 8–10.

Appellant contends, similar to the claims of *Enfish*, “[t]he claims of **the present patent application are directed to an improvement in the**

⁴ *Amdocs (Isr.) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1294 (Fed. Cir. 2016) (explaining that, in determining whether claims are patent-eligible under § 101, “the decisional mechanism courts now apply is to examine earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided”).

⁵ *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016) (explaining a specific type of data structure designed to improve the computer or its components’ functionality or efficiency, or otherwise change the way those devices function).

⁶ *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1151 (Fed. Cir. 2016) (“a claim for a new abstract idea is still an abstract idea.”) (emphasis omitted).

⁷ *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1348 (Fed. Cir. 2016) (“We have found software-related patents eligible under both steps of the test *Alice* sets out. We found a patent to a particular improvement to a database system patent-eligible under step one in *Enfish* . . .”).

⁸ *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014) (“[T]he claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks.”).

⁹ *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314–15 (Fed. Cir. 2016) (finding claims not abstract because they “focused on a specific asserted improvement in computer animation”).

way an EDA tool operates, specifically in the implementation of a circuit design comprising FinFETs by using *FinFET block* based cells,” which “speeds up the implementation of the circuit design significantly, enables more and finer granularity cell variation choices to be made available to implement a given logic function, and is beneficial to the design of future integrated circuit technology.” Appeal Br. 11. According to Appellant, because “the claim considered in *Enfish* **also does not require any physical results,**” “it would not be sufficient by itself to find Appellant’s claim patent ineligible, merely because it does not recite the creation of a physical final product.” Appeal Br. 13–14. With respect to the recited additional elements, Appellant contends the recited features included “in the sets of semiconductor fins of FinFET transistors” constitute additional elements that “transform the nature of the claim into a patent-eligible application of the idea” because “[t]hey are physical structures that can be found in physical integrated circuit chips.” Appeal Br. 16–17. Additionally, Appellant argues the Specification “describes an unconventional way to define cells for a cell library, that takes particular advantage of unique differences between FinFETs and planar transistors, differences which substantially increase the flexibility with which circuits can be laid out, placed and routed.” See Appeal Br. 19–20 (citing Spec. ¶¶ 111–112).

Legal Principles

Section 101 of the Patent Act provides “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” 35 U.S.C. § 101. However, the Supreme Court has long interpreted

35 U.S.C. § 101 to include implicit exceptions: “[l]aws of nature, natural phenomena, and abstract ideas” are not patentable. *E.g.*, *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014) (internal quotation marks and citation omitted).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court’s two-step framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is “directed to.” *See Alice*, 573 U.S. at 219 (“On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk.”); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (“Claims 1 and 4 in petitioners’ application explain the basic concept of hedging, or protecting against risk.”).

Concepts determined to be abstract ideas, and, thus, patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); “tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

If the claim is “directed to” an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where “we must examine the elements of the claim to determine whether it contains an ‘inventive concept’ sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Alice*, 573 U.S. at 221 (citation omitted). “A claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* (quoting *Mayo*, 566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.*

In January 2019, the PTO published revised guidance on the application of § 101. USPTO, 2019 REVISED PATENT SUBJECT MATTER ELIGIBILITY GUIDANCE, 84 Fed. Reg. 50 (Jan. 7, 2019) (“Guidance”). All USPTO personnel are, as a matter of internal agency management, expected to follow the guidance.” *Id.* at 51; *see also* October 2019 Update at 1 (*October 2019 Update: Subject Matter Eligibility*).¹⁰ Under the Guidance, we first look to whether the claim recites:

- (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes) (Step 2A, Prong 1); and
- (2) additional elements that integrate the judicial exception into a practical application (*see* MANUAL OF PATENT EXAMINING PROCEDURE (“MPEP”) § 2106.05(a)–(c), (e)–(h)) (9th ed. rev. 08.2017 Jan. 2018) (Step 2A, Prong 2).

¹⁰ USPTO, *October 2019 Update: Subject Matter Eligibility* (the “October 2019 Update”) (available at https://www.uspto.gov/sites/default/files/documents/peg_oct_2019_update.pdf).

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look to whether the claim:

(3) adds a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)); or

(4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. (Step 2B.)

See Guidance, 84 Fed. Reg. at 54–56.

Discussion

Abstract Idea

Turning to claim 1, we first note that the claim recites a system for circuit design on an electronic design automation tool configured to perform functions that fall within the process category of § 101. But despite falling within this statutory category, we must still determine whether the claim is directed to a judicial exception, namely an abstract idea. *See Alice*, 573 U.S. at 217. We therefore determine (1) whether claim 1 recites a judicial exception (Guidance Step 2A — Prong 1) and, if so, (2) whether the identified judicial exception is integrated into a practical application (Guidance Step 2A — Prong 2). *See* Guidance, 84 Fed. Reg. at 52–55.

We agree with the Examiner that claim 1 recites limitations that are directed to analyzing circuit design data, providing a physical circuit representation, and applying the representation in designing an integrated circuit, similar to the claims determined to be directed to extracting data and recognizing specific information from the extracted data in *Content Extraction* and *Synopsys*. *See* Ans. 2. In other words, the claimed method steps recite a judicial exception that can be categorized as mental processes, i.e., concepts performed in the human mind or using pen and paper

(including an observation, evaluation, judgment, and opinion) under the Guidance, 84 Fed. Reg. at 52. *See also CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1375 (Fed. Cir. 2011) (“That purely mental processes can be unpatentable, even when performed by a computer, was precisely the holding of the Supreme Court in *Gottschalk v. Benson*.”); *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014) (holding that presenting the results of abstract processes of collecting and analyzing information, without more (such as identifying a particular tool for presentation), is abstract as an ancillary part of such collection and analysis).

The recited functions of “transform . . . a logical circuit representation of a D-flip flop into a physical circuit representation” and “use the D-flip flop in automated design of an integrated circuit” constitute mental processes or concepts performed in the human mind. People can determine the recited circuit representation and incorporate those circuits in a set of integrated circuit designs by, for example, using a list of circuit representations, their interconnects, and fitting them together.

With respect to providing and using circuit representations in the automated design of an integrated circuit having specific semiconductor fins of FinFET transistors, we disagree with Appellant (*see* Appeal Br. 10–13) that the focus of the claims is on a technical improvement. The mere recitation of retrieving and transforming data and applying the results to automate circuit design in claims 1, 10, and 11 do not embody an improvement in computer capabilities as in *Enfish*. *See Enfish*, 822 F.3d at 1336. Similarly, using a computer merely automates and accelerates the underlying, patent-ineligible invention that could be performed via pen and paper or in a person’s mind. *See Versata Dev. Grp., Inc. v. SAP Am., Inc.*,

793 F.3d 1306, 1335 (Fed. Cir. 2015). Thus, we determine that the claims relate to the judicial exception identified above.

In a similar vein, we have treated analyzing information as steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category. *See, e.g., TLI Commc'ns*, 823 F.3d at 613; *Digitech*, 758 F.3d at 1351; *SmartGene, Inc. v. Advanced Biological Labs., SA*, 555 F. App'x 950, 955 (Fed. Cir. 2014); *Bancorp Servs., L.L.C. v. Sun Life Assurance Co. of Canada (U.S.)*, 687 F.3d 1266, 1278 (Fed. Cir. 2012); *SiRF Tech.*, 601 F.3d at 1333; *see also Mayo*, 132 S. Ct. at 1301; *Parker*, 437 U.S. at 589–90; *Benson*, 409 U.S. at 67. That is, merely presenting the results of abstract processes of collecting and analyzing information, without more (such as identifying a particular tool for presentation), is abstract as an ancillary part of such collection and analysis. *See, e.g., Content Extraction and Transmission LLC v. Wells Fargo Bank, N.A.*, 776 F.3d 1343, 1347 (Fed.Cir.2014).

We also note the recited process to “use the D-flip flop in automated design of an integrated circuit,” wherein a certain configuration of FinFET transistors are used, merely collect and present circuit representation information. Courts have found such data gathering and presenting steps to be insignificant extra-solution activity. *See, e.g., In re Bilski*, 545 F.3d 943, 963 (Fed. Cir. 2008) (en banc), *aff'd sub nom. Bilski*.

*Integration of the Abstract Idea into a Practical Application —
Step 2A, Prong Two*

Having determined that claims 1, 10, and 11 recite abstract mental processes, we next look to determine whether the claims recite “additional

elements that integrate the judicial exception into a practical application.” Guidance, 84 Fed. Reg. at 53–54. We specifically determine whether the claim applies, relies on, or uses the abstract idea in a manner that imposes a meaningful limit on the abstract idea, such that the claim is more than a drafting effort designed to monopolize the abstract idea. *See* Guidance, 84 Fed. Reg. at 54–55. We therefore (1) identify whether there are any additional recited elements beyond the abstract idea, and (2) evaluate those elements individually and collectively to determine whether they integrate the exception into a practical application. *See id.*¹¹

Here, the recited EDA tool, D-flip flop, FinFET block, and circuit components in claim 1, as well as the processor, memory and instructions executable by a data processor in claims 10 and 11, are the only recited

¹¹ Limitations that are indicative of “integration into a practical application” include: (1) improvements to the functioning of a computer, or to any other technology or technical field (*see* MPEP § 2106.05(a)); (2) applying the judicial exception with, or by use of, a particular machine (*see id.* § 2106.05(b)); (3) effecting a transformation or reduction of a particular article to a different state or thing (*see id.* § 2106.05(c)); and (4) applying or using the judicial exception in some other meaningful way beyond generally linking the use of the judicial exception to a particular technological environment, such that the claim as a whole is more than a drafting effort designed to monopolize the exception (*see id.* § 2106.05(e)). *See* Guidance, 84 Fed. Reg. at 54–55 (“Prong Two”). In contrast, limitations that are not indicative of “integration into a practical application” include: (1) adding the words “apply it” (or an equivalent) with the judicial exception, merely including instructions to implement an abstract idea on a computer, or merely using a computer as a tool to perform an abstract idea (*see* MPEP § 2106.05(f)); (2) adding insignificant extra-solution activity to the judicial exception (*see id.* § 2106.05(g)); and (3) generally linking the use of the judicial exception to a particular technological environment or field of use (*see id.* § 2106.05(h)). *See* Guidance, 84 Fed. Reg. at 54–55 (“Prong Two”).

elements beyond the abstract idea, but these additional elements do not integrate the abstract idea into a practical application when reading claims 1, 10, and 11 as a whole. As discussed below, the additional elements do not improve computer capabilities or a technical field. Nor do they implement the abstract ideas on a particular machine that is integral to the claims or effect a transformation or reduction of a particular article to a different state or thing. Guidance, 84 Fed. Reg. at 55. They simply use computers and other components as tools to apply the abstract ideas. “[M]ere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.” *Alice*, 573 U.S. at 223; see also *Enfish*, 822 F.3d at 1335–36.

The above-mentioned elements employ generic components that perform generic functions of collecting, analyzing, and processing data (digital data comprising logical circuit representation of a D-flip flop FinFET block-based cells from the cell library), which do not integrate the abstract ideas into a practical application. See Guidance, 84 Fed. Reg. at 55 & n.31. These recited functions are performed by processing components that are disclosed as a cell library and a processor for implementing the design, and more specifically embodied in processor 214, storage subsystem 224, user interface devices 222 and 220, and a network interface 216. See Fig. 2A, Spec. ¶¶ 35–42. Based on the description of the process and the system recited in claims 1, 10, and 11, the logical circuit representation of a D-flip flop is transformed into a physical circuit representation by generic components listed above and used to design an integrated circuit, all based on generic components performing generic software instructions. Simply adding generic hardware and computer components to perform abstract ideas

does not integrate those ideas into a practical application. *See* Guidance, 84 Fed. Reg. at 55 (identifying “merely includ[ing] instructions to implement an abstract idea on a computer” as an example of when an abstract idea has not been integrated into a practical application).

It is well settled that “mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.” *Alice*, 573 U.S. at 223 (“Stating an abstract idea while adding the words ‘apply it with a computer’ simply combines those two steps, with the same deficient result. Thus, if a patent’s recitation of a computer amounts to a mere instruction to ‘implemen[t]’ an abstract idea ‘on ... a computer,’ . . . that addition cannot impart patent eligibility.”) (quoting *Mayo*, 566 U.S. at 82); *see* Guidance, 84 Fed. Reg. at 55 & n.30. The lack of details about these elements also indicates that the above-mentioned elements are generic computer components. *See Intellectual Ventures I LLC v. Erie Indem. Co.*, 850 F.3d 1315, 1331 (Fed. Cir. 2017) (“The claimed mobile interface is so lacking in implementation details that it amounts to merely a generic component (software, hardware, or firmware) that permits the performance of the abstract idea, i.e., to retrieve the user-specific resources.”).

In other words, unlike the claimed invention in *McRO* that improved how the physical display operated to produce better quality images, the claimed invention here merely uses generic computing components to identify a physical circuit representation associated with a logical circuit presentation of a D-flip flop for automated design of an integrated circuit. *See* Appeal Br. 13–14. This generic computer implementation is not only directed to a mental process, but also does not improve the underlying technology, such as a display mechanism as was the case in *McRO*. *See*

McRO, 837 F.3d at 1314–15 (finding claims not abstract because they “focused on a specific asserted improvement in computer animation”); *see also SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1167 (Fed. Cir. 2018) (distinguishing *McRO*).

Additionally, we are not persuaded that the claimed invention addresses the specific problem of automated circuit design. *See* Reply Br. 2. Likewise, the functions recited in claims 1, 10, and 11 do not improve the technology or the technical field of integrated circuit design and merely use generic computer components and functions to perform the recited steps. Also, the recited method steps do not require a “particular machine” and can be utilized with a general purpose computer, and the steps performed are purely conventional. In this case, contrary to Appellant’s assertion that “Appellant’s claims do require a computer (an EDA tool; a data processing system; a cell library), and as explained more fully in Appellant’s opening brief at 11–13, this computer is improved by the claimed introduction of ‘FinFET block based cells,’ defined in the claim, to perform the conversion” (Reply Br. 8), the general purpose computer and the related software components are merely objects on which the method operates in a conventional manner. Further, the claim as a whole fails to affect any particular transformation of an article to a different state. The recited steps fail to provide meaningful limitations to limit the judicial exception and rather are mere instructions to apply the method to a generic computer.

Thus, the claims do not integrate the judicial exception into a practical application. Further, the claims do not (1) improve the functioning of a computer or other technology, (2) are not applied with any particular machine (except for a generic computer), (3) do not effect a transformation

of a particular article to a different state, and (4) are not applied in any meaningful way beyond generally linking the use of the judicial exception to a particular technological environment, such that the claim as a whole is more than a drafting effort designed to monopolize the exception. *See* MPEP § 2106.05(a)–(c), (e)–(h).

Inventive Concept — Step 2B

Because we determine claims 1 and 13 are “directed to” an abstract idea, we consider whether the claims recite an “inventive concept.” Under the Guidance, if a claim: (1) recites a judicial exception, and (2) does not integrate that exception into a practical application, we then look to whether the claim adds a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)); or, simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. *See* Guidance, 84 Fed. Reg. at 56.

We agree with the Examiner that Appellant’s disclosure refers to the recited components of a FinFET, including the parallel fins and the isolation structure, as data files that are stored away. Ans. 9 (citing Spec. ¶ 100; Fig. 12). As discussed above, we are unpersuaded by Appellant’s contentions (Reply Br. 6–9) and find the additional elements, other than the data files representing the circuit components, performing the recited functions include generic data collection and processing elements without requiring any specific functions other than the known functions associated with those components. *See* Ans. 12 (citing Spec. ¶ 41). As discussed above, the Specification describes generic processing components that are disclosed as a cell library and a processor for implementing the design including a

processor, storage system, user interface devices, and a network interface. *See* Fig. 2A, Spec. ¶¶ 35–42. Using generic computer components to perform abstract ideas does not provide the necessary inventive concept. *See Alice*, 573 U.S. at 223 (“[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.”). Contrary to Appellant’s argument that, in citing to *Amdocs*, the Examiner relied on a “far too narrow reading of the principles set forth in *Amdocs*” and ignored the unconventional way “to define cells for a cell library” (Appeal Br. 19; Reply Br. 14), we find Appellant’s Specification expressly describes well-known examples of using a cell that is selected from a cell library to design integrated circuits. *See* Fig. 2A; Spec. ¶¶ 35–42. The specific FinFET structure and layout, in contrast with a planar transistor, in fact represent a block of data or information that is stored in a library of cells and used as a building block in integrated circuit design. *See* Figs. 2B–2C. Considering the elements of the claims both individually and as “an ordered combination” the functions performed by the computer system and other software components at each step of the process are purely conventional. Each function of the system claims does no more than require a generic computer to perform a generic computer function, i.e., transforming a logical circuit representation of a D-flip flop into a physical circuit representation. Thus, these elements, taken individually or together, do not amount to “significantly more” than the abstract ideas themselves.

Moreover, we note the Examiner provides *Berkheimer*¹² evidence in support of the “well-understood, routine, and conventional” fact findings in

¹² *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018).

the form of citations to numerous Federal Circuit case authorities, which Appellant has not substantively and persuasively distinguished from the claims before us on appeal. *See* Ans. 2–13. In fact, the cited list of cases in the MPEP § 2106.05(d)(II) supports the characterization of the recited “transform on a data processing system a logical circuit representation of a D-flip flop into a physical circuit representation” and “use the D-flip flop in automated design of an integrated circuit” using generic data processor and computer components as “well-understood, routine, and conventional functions when they are claimed in a merely generic manner (e.g., at a high level of generality).” *See* USPTO, Memorandum on Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v. HP, Inc.*) at 3 (Apr. 19, 2018). Consequently, we find that the above-identified claim elements, at the high level of generality recited in claims 1, 10, and 11, constitute no more than what would have been well-understood, routine and conventional to a skilled artisan.

Conclusion

For at least the above reasons, we agree with the Examiner that claims 1, 10, and 11 are “directed to” an abstract idea and do not recite an “inventive concept.” Accordingly, we sustain the Examiner’s rejection of claims 1, 10, and 11, as well as the remaining claims which fail to include additional elements that add significantly more to the abstract idea, under 35 U.S.C. § 101.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 4-11	101	Eligibility	1, 4-11	

FINALITY AND RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED