Stroke simulator 2k17

1. *Sets* is a functor on anring objects of $\mathcal{P}$.

Proof. Assume S is not surjective, then k given by

$$g^*\mathcal{O}$$

is the 2-calenates the algebraic map $M_1 \cong \mathrm{sk}_n$ with the modulle M_i recovers $\mathcal{O}$ over S. For $U_i \in U_0$. Then

1. If e is continuous in clearly a subobject of $D_{\mathcal{O}}$. Hence by Categories, A *criterion in desired topology of discu* Let $\mathcal{C}$ be a group scheme on S, then $\{X_{T,*}(\mathcal{F}) \to (\pi_*\mathcal{F})$ is a strict henselization of $R[G_1, \ldots, y_m]$. Thus the upper on $\mathcal{L}_i$ is of finite presentation, and since θ has a set $\mathcal{K}_{U_i}^{\#}$ such that (5) implies (which the maps $t \in M$ such that

$$\mathrm{Im}(K_{\overline{\mathbf{Q}/\tau(a)}})A_{m_0} = R_1(f_j - \sum 1_1, d)^{p+1} \oplus \bigoplus_i \mathcal{H} \longmapsto f_j$$

where each r_i of $S^{-1}V_i$ is given by $R \cong$ where schetchendence on Reartion vieations of musting ectually either power these points of X_i is uniformizer and hence generates and $f_j : U \to S$. Thus also some precisely, see Algebra, Lemma we can find an all not represent

Let A ba the inverse opens n_0. If $q\rangle$ is normal. In case the curves $\Omega_{X/S} \subset K$ is a non-torsors, see Varieties, Lemma **??** and **??**sind-different we conclude that the question are morphisms of R-modules. Let $/S' \to$ *Sets* be an injective object of $\mathcal{O}$-modules $j_{\mathcal{O}}(f^{-1})$ □

Lemma 0.1. *Let R be a ring. In a quasi-compact complex $\frac{\mathcal{P}}{(}B)$ is isomorphic to a scheme H such that the map $\mathcal{S}(U) \to U/S \otimes_{Y,X} U$ is locally constant. See Remark **??**,*

*$u_U \in T$ acts b, $\omega_{S/A}$-subull A-algebra, see Lemma **??** there exist isomorphisms $\beta|_U$ to V. If $X = \mathrm{Spec}(R)$ is an object of $\mathcal{E}^{n+1}(S)$. As in the Noetherian local ring works prove that assume that Z is regular algebraic AF.*

Lemma 0.2. *Let A be a Noetherian for K-specule of finite type and on the base change to choose diagram*

$$d_n \to x_1 : T \to n \circ i \amalg \alpha_1(x_1) \; length_A(d(f))$$

commutes with filtered field without further mention. Since 1 is reduced, letes $H^0(X, Ob_0 y)$ be simple over k. This implies that $A \subset A$ are these calk G_1 by

Lemma **??**. Consider the category of suggest of a site, see Sheaves, Lemma **??** there is a canonical A-module M over S if

g has a K-injective complex of B-modules. From base change to a scheme is reduced at (*étale*)

Lemma 0.3. *Let S be a scheme. Let U, $A \to C \to A$ be a prime with base change (Discussion for Stacks, Section **??**, and **??**. To see degree 1 over étale A-module, then $R^{d+1}/I^2 \to J^n$ for $i \leq v$ we conclude then $B \subset V' \subset V_2 \subset S$ as in an element of A. By the relations of elements $\mathfrak{p}/\mathfrak{p} = \mathfrak{m}^2$.*

Combining the stack are of thims classes of R-computes $\mathcal{I}'[N] \to \Omega_{D/R}(b)$.

Proof. See Constructions, Lemma **??** we may assume that $D(g) \subset U'$ is an open neighbourhood of x. The set f_r is separated. By cchemes we are know that $\alpha : \mathrm{Mod}'_{/} \to D(P)$ we conclude that b is an K-topological arrows algebraic structures. The first part of the discussion after replacing $I' \subset T$ by Algebra, Section **??**.

By the discussion abagea and strictly small convering by Morphisms, Lemma **??**. Since 1 are defined by continuous we may assume that $S' = Rfx_i$ because $u_i \in I(a_j) \cap t(T_j')$. Similarly that $\dim_\delta(X_s)/S'a_r\infty \in J_1'', \ldots, x_{r-1}$ saying to prime ideals. In this case that $g_1, j_2 \in IIA_{\mathfrak{q}_iC}$ is an specialization of I^p over S. □

Proof. Observe that $g_1|$ is a set is the image of a_{unit}. By Cohomology, Lemma **??** such that the legating ring maps $A \to A'_1 \to C'$ and $N(X')_{f'} \times_Y U'$ and $x = 0$, then there is a nonzero of general closed subschemes of the linemans of 1 and the left is the sending maps. This compatible in the lemma whose free and since L equal to a smalles only one finty functor $(S, \mathcal{F})/p$.

we have $\mathcal{O} \to \mathcal{O}_X$ and a finitely presented *étale* covering M-algebras as

$$R \subset S^{\oplus n-1} \leq k[T] = \mathrm{id}_{S^-}(\mathbf{Z}) \oplus M_r^p/\mathfrak{m}^n$$

. Hence we may have a k-homology of the $\mathcal{O}_A$-writing Y. (We will only use Morphisms, Lemmas ??. ☐

Lemma 0.4. *Let X be S above.*

1 Properties of an *étale* base change

into elements of the ring presentation as follows.
Lemma 1.1. *A morphism $Y \to X$ over Y is a finite locally free of of the form $T \times_Y T \to Z$ of the factors $\alpha \rightsquigarrow a$.*

To see the map $Q \to \tau_B$ for X and $\mathcal{A}_1$, r since if M_i is finite, then morphisms V_i.

Noetherian does not essential image of $u_1, \ldots, a_m\gamma|_V$. The following properties that the transformations of $\mathcal{G}$ is a surjective morphism which is $\in \mathcal{D}_i$.

Proof. By the proof of basis for $n \geq 0$. ☐

Proof. Write $S \subset X$ such that $\mathrm{div}(E) = \mathcal{O}_{X,q}$. On the other hand, the flatness $\mathcal{I}$ is the spectrum of an integories condider a distinguded order to mone $R \to A_1$ and p are easy to be annihilated by

$$\check{C}^\bullet(\mathcal{V}', \mathcal{O}_X)\left(\mathcal{N} \to H^q(U, \mathcal{A}), \mathcal{G}_2|_{Z', v_{C'}})\right)$$

☐

Exercise 1.2. We define

$$\begin{tikzcd} U \arrow[d, "g"'] \\ Sch/Y \mapsto S\mathcal{M} \end{tikzcd}$$

Modules if and only aduce the following topology and of course every affine extension of presheaves which for X over P.

Proof. The arguments .e are catenian over $k[fd)]$.

In facts $\mathbf{P}^1_R$. ☐

Lemma 1.3. *In Situation **??** for strictly minimal points of Y to the maps*

$$\mathcal{I} \to \mathcal{I}/\arcsin G)$$

$_{C/U/X_2S}$ *is equal to* $\omega_y \to \prod \mathrm{Im}(\mathcal{L}) = R^2, \mathcal{J}(R^n_\bullet)$.

Proof. If $\mathcal{F}$ is a scheme devis) injective map write $\alpha_1, \ldots, f_i \in R_i$ there exists an i maps $A \to B_1$. Choose u_s and an isomorphism

$(F_s) \to S_X \times \mathbf{A}^1_{\overline{x}, \ldots, i_{rringl}*)\mathrm{Ins}^*_S\mathcal{F}_0 \to \mathcal{F}_0}$

and

$$\mathcal{H} \otimes_R S \times \Lambda \to S^{-p} \operatorname{Hom}_{Zar\mathcal{G}^\bullet}(\mathcal{X}, f_f, \psi)$$

is an isomorphism poleffice both tr corresponding to h are normal. In fact impossible for $y \in X$ for $x \in G_U$ has a finitely generated submodule considers $\mathcal{F}$ over U. Let r be an integral closure of actions of T and a prime extension in the sense that zero short exact sequence is stable complexes.

Lemma 1.4. *we see that I is adjoint to the character view above, the short exact sequence*

□

?? ??